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Address

SOME PUBLIC HEALTH PROBLEMS*

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BALTIMORE

In view of the present active crusade for increased efficiency in all lines, I feel it pardonable to bring to your attention at this time some matters pertaining to health. Not that I can add to your knowledge of the subject, but only by frequent iteration is it possible to impress on the public mind the importance of these questions. General information is only of slight value, beyond adding to our self-complacency, and deluding ourselves as to what we really know. It is only when we analyze our information that we learn how vague our ideas are.

Hence my plea for indulging in a somewhat frayed-out topic is, that in reviewing the literature of our state and national health conditions, one is struck with two great truths: first, how enormous has been the success in dealing with many dread diseases, such as smallpox, plague, typhoid fever, cholera and yellow fever, all of which has been made possible by scientific investigation and data obtained largely through the labors and sacrifices of our profession; second, with the great fields yet to be cleared which are growing up daily from the seed sown by the previous crop of tares, and that these huge problems of health, state and national, are to be solved, I feel, largely by the medical profession, the biologist and the biologic engineer; and the latter must in course of his preparation pass through a medical training to understand his work.

To these achievements of the past I shall refer briefly in order that the possibilities of the future may be forecasted.

SMALLPOX

The marvelous results of vaccination are incomprehensible to present-day physicians. I have seen but three cases of smallpox in sixteen years of practice, and the patients were in quarantine. Before Jenner's discovery, slightly more than a century ago, the toll demanded from the human family was one-tenth of the deaths from all causes. During the eighteenth century it is computed that at least 50,000,000 persons died of this one disease. Prior to compulsory vaccination in Prussia in 1874, it having been used intermittently up to that time, the death-rate was 24.4 per hundred thousand; during the next decade it fell to 1.5 per hundred thousand.

As early as 1826 Denmark had compulsory vaccination, and has enforced it so vigorously that not a case has occurred in ten years. Havana for eight years prior to its occupancy by the Americans reported 3,123 deaths from smallpox. In 1899, a year after our entry, there were four deaths and only three in the next seven years, a practical elimination of a scourge which had always existed prior to this time. This illustrates two factors—the entire prevention of a disease by a scientific immunizing agent, and the need of such laws as will protect the whole people, though this to some appears as a sacrifice of individual rights.

This plea for personal liberty, arising in the Old World, has invaded our land, and groups of obsessed and hysterical individuals have formed a society for attacking vaccination. These people band themselves together under the head of antivaccination societies, and by specious arguments endeavor to influence the uninformed as to the possibilities of disease being inoculated into them by vaccination. It remains for us then, to enlighten the people at large relative to the facts concerning vaccination, that their misleading arguments may be forestalled.

The freedom from smallpox which has been brought about only through vaccination is being used as an argument for legislation against the very agent which has made the controversy possible.

YELLOW FEVER

Yellow fever in 1793, during a period of six and a half weeks killed one-tenth of the entire population of Philadelphia. Since that date approximately 500,000 cases have occurred in the United States, one-fifth of which terminated fatally. In 1900 experimenting by Lazear and Carroll Reed on themselves—having a certain species of mosquito (*Stegomyia*) inoculate them—confirmed the work of previous and coincident workers as to the true carrying agent of this malady, but sacrificed their noble lives that the world might be informed and many lives saved. So to-day as a result of this sacrifice, our country is practically free from this disease.

Havana has paralleled the elimination of its smallpox by reducing its cases of yellow fever from a death-rate of 639 to 100,000 people in 1896 to 4.3 to 100,000 two years later. These results have been due to protection from the mosquito and the general cleaning up and enforcing of the sanitary measures by General Wood and Colonel Gorgas.

Panama, under Colonel Gorgas, has been changed by sanitary means from a region fatal to life by virtue of disease into one as free of disease as the average country. Indeed, it may truly be said that sanitary science is building the Panama Canal, that its completion will be the most enduring monument to preventive medicine; and as the two great oceans commingle their waters, and

* President's Address to the Members of the Medical and Chirurgical Faculty of the State of Maryland Annual Meeting, April 26, 1910.

as the world gazes on the majestic ships as they pass to and fro, it will perhaps be realized that the power of man is supreme over inanimate matter. This will give to all mankind the true faith and belief that the knowledge of sanitary engineering will increase, so that as the Panama Canal represents the completion of an undertaking of vast proportions, so will the causes of diseases be eventually circumvented.

CHOLERA, SCURVY, TYPHUS AND DIPHTHERIA

Cholera, formerly the scourge of the Atlantic seaboard, is now, since the discovery of its cause, practically a thing of the past.

Scurvy, which in the eighteenth century decimated the armies and navies of Europe, has been eliminated by the discovery of its cause, which was proved to be faulty nutritive and metabolic processes dependent on the deficiency of vegetable juices.

Typhus fever, popularly known as ship fever, jail fever, a scourge which ravaged the civilized world for centuries, is so rare now that I question if there is a practitioner in this audience who has seen a case in his whole experience. A disease of filth, overcrowding and lack of sanitation, its elimination has required only cleanliness, light and air.

Diphtheria, the very name of which brought terror to the heart of the mother and blanched the cheek of the father, has been robbed of its fangs, the mortality having been reduced from more than 40 per cent. to as low as 4 in cases recognized early.

LABORATORY INVESTIGATION

Here improved sanitation has not availed in its arrest, but the laboratory has brought about a curative serum, to which method alone we must give full credit for relief from this dread disease. I can do no better than to quote the closing remarks of a paper read by Dr. William H. Welch in 1895, for it emphasizes two factors so well; the value of laboratory methods, and animal experimentation:

> The discovery of the healing serum is entirely the result of laboratory work. It is the outcome of the studies of immunity. In no sense was the discovery an accidental one. Every step leading to it can be traced, and every step was taken with a definite purpose and to solve a definite problem. These studies and the resulting discoveries mark an epoch in the history of medicine. It should be forcibly brought home to those whose philozoic sentiments outweigh sentiments of true philanthropy, that these discoveries which have led to the saving of untold thousands of human lives, have been gained by the sacrifice of the lives of thousands of animals, and by no possibility could have been without experimentation on animals.

Indeed, with the vast amount of material facts already collected, and with the results thus far obtained, the retrospect is assuring for the future.

The health problems present two phases which should be considered, as they are of equal importance, from both an economic and a humanitarian view-point. The improvement in our vital resources will result in increasing the span of life as well as decreasing disease during life, thereby prolonging the period of productiveness, and at the same time adding proportionately to the well days during life, in the same ratio as disease is lessened. Thus, as it has been said, we add to the breadth as well as to the length of life.

SANITARY SCIENCE AND PREVENTIVE MEDICINE

If one compares countries where sanitary science and preventive medicine have sway with those not so regulated, the results are astounding. In India the average lifetime is less than twenty-five years. In this country it is forty-four years, taking Massachusetts as a criterion, this being the only state with a long accurate vital statistical record. The increase from century to century shows the marked effect of sanitation. India remains stationary. In Europe the average lifetime has doubled in three and a half centuries. The increase was approximately four years per century during the seventeenth and eighteenth centuries, while the first half of the nineteenth century showed an increase of about nine years, and the latter at least seventeen years.

Germany, the country of advanced sanitation and prevention, shows an increase of about twenty-seven years in a century. In this country, Massachusetts as a basis, the increase is only about half that of Germany.

When we compare the average lifetime in India with that in Sweden, and find it only half; and when we further compare all the intermediate statistics of various countries, we find that the length of life is directly proportional to development of sanitation. The conclusion is obvious, that the length of the human life can be prolonged or shortened by a change of those conditions on which it directly depends.

It is estimated that in the United States at least 3,000,000 persons are seriously ill all the time. Of this number one-sixth or 500,000 are sick of tuberculosis, of whom 150,000 die annually. It is believed that at least three-quarters of this number could be saved by preventive measures. The death-rate from tuberculosis in England is now only one-third of what it was seventy years ago.

This gradual decrease of deaths from tuberculosis, giving England a lower rate for this cause than any other country, is explained by Dr. R. W. Phillips of Edinburgh. He states that:

> The legislation of the past three-quarters of a century with regard to the dwellings of the poor, lodging-houses, work-shops and factories, and other public health enactments, have paved the way for the more direct attack. Through the influence of these measures mortality from tuberculous diseases has as steadily lessened as that from other infectious conditions. There can be no doubt that the housing question, using that phrase to include all considerations relating to dwellings, lodging-houses, schools, factories, etc., must occupy a chief place in the preventive program against tuberculosis.

This phase of the subject is one which needs more attention, particularly in this and other southern states where tuberculosis is so prevalent and so fatal in the negro race. When we realize that a large majority of people, estimated at 90 per cent., are all, at one time or another, affected with tuberculosis, and that but 10 per cent. die, enormous as this makes the grand total, we are justified in saying that in few diseases not self-limited is there a greater tendency to recovery than in tuberculosis. This one problem must be solved by a full realization on the part of those in legislative power of the possibility of prevention, by the enactment of suitable regulations, and appropriations of sufficient funds to properly enforce them. I feel that Maryland has been no laggard in this fight, and that its work will show remarkable results in another decade.

PROTECTING WATER-SUPPLY

Typhoid fever exists throughout the United States to an enormous extent, the most of which has been directly attributed to the water-supply. Aside from the great financial loss and distress of mind in the care of cases of typhoid recovering, it causes 2 per cent. of all deaths, and it is generally conceded that Hazen's theory is correct, that every life saved from typhoid by better water-

supplies, means two or three lives saved from other causes. The improvement of the water-supply of various cities has enormously reduced the occurrence of cases.

But there is a feature of the disease which we, as physicians should not lose sight of. It is to-day largely a rural disease, because of the proximity of wells to habitations; and the well in which hung the old oaken bucket has been the cause of many of the sad scenes of our childhood. The purification of these sources of water-supply cannot be attained by measures in rural districts corresponding to those employed in large cities, such as expensive filtration plants.

This condition can and should be met by the physician, first of all he should recognize the disease; and this in most instances may be more readily done by the improved methods of diagnosis. Secondly, he should realize that the disinfection of feces and urine will destroy the possible contamination of the drinking-water. Thirdly, he should make sure of protection from the "typhoid fly" carrying the germ from patient to food and drink. Finally, the usual sick-room precautions should be observed. Thus can we as physicians be the greatest factors in this fight. When we destroy the source of contamination, all water-supplies will remain pure.

I do not deprecate the necessity for modern sanitary water-supplies for large centers; they are of vast importance; but suitable precautions taken will reduce this disease to a minimum, even under the present arrangement.

We know that typhoid is a water-borne disease. The pollution of interstate waterways is the cause of a tremendous loss of life, and it is a problem which has led to the question of the power of the government to eliminate this evil without interference with state rights. Without exhaustively discussing this legal constitutional question, I may only quote without giving details, an opinion given by ex-Congressman George Shiras, son of Justice Shiras, to Surgeon General Wyman:

> The right of a government to regulate and control the extent and character of water pollution is a primary one and may, in the United States, be divided into two general classes: First, local waters, or those lying wholly within the confines of a single state. Second, interstate waters, or those traversing or lying within the territory of two or more states. In the first division, the sanitary jurisdiction over local waters is limited to the state courts, and all remedial or corrective legislation is vested solely in the law making body of the state. In the second division, however, the jurisdiction over the interstate waters may be a concurrent one of the state and federal governments, or at times, when the conflicting interests of the state in such common waters requires the intervention of a final arbitrator, the federal government becomes supreme in its determination of what constitutes an unreasonable and unnecessary pollution of waters common to two or more states. Thus it simply remains for the people to realize this danger and demand the proper protection.

The pollution of water-supplies from sewage is becoming daily a more and more serious problem. With the extension of rapid and convenient transportation, the suburban sections are becoming crowded; cities as dwelling-places are no longer appreciated; the tendency is to go to the country. In consequence of this there are many communities located along streams furnishing drinking-water to other communities, where no adequate provision is made for the disposal of the sewage, resulting in a constant saturation of the soil and pollution of streams. There must be some way of solving this problem. Health ordinances must be enacted for the suburbs as stringent as those for the city, if a serious condition of affairs is to be prevented. The pollution of streams within the state must be prevented by state authorities, and it is regrettable that it often seems difficult to enforce such measures. The people have the power in their hands. Public sentiment must be aroused.

PNEUMONIA

The number of deaths from pneumonia is somewhat greater than that from tuberculosis. This disease causes 11 per cent. of all deaths in the United States, as shown from the mortality statistics of the registration area by the last census. Our knowledge of it is confined to its cause, its communicability and the wide distribution of its germs. The predisposing causes have been observed to be those things which lower the vital resistance, such as alcoholism, acute or chronic, exhaustion, exposure, and insufficient clothing or food. The means of its prevention by health measures, other than maintaining a high condition of vitality, are not known. It is therefore, a formidable problem for the laboratory man to solve as he has solved that of diphtheria.

MALARIA

Malaria is preventable and is decreasing rapidly throughout the country. It can be absolutely eliminated in one of three ways: first, by eliminating the parasite from the blood by quinin or other therapeutic measures; second, by preventing the mosquito from biting a malarial patient and becoming inoculated, or by preventing the mosquito which has become inoculated from biting the non-inoculated person; third, by destroying all mosquitos by sanitary measures. I believe the first method, by the unstinted use of quinin, has thus far been the chief factor in the reduction of malaria, and I believe the cheapening of quinin to make it available was one of the greatest economic blessings the American people has ever had. Malaria is not a disease with a high mortality, but wherever and whenever it prevailed, the country or state of the country was markedly backward in its development. It is said the decline of the Roman Empire dated from the time the people discontinued the custom of anointing their bodies with olive-oil, thereby permitting the mosquito to bite and inoculate them with malaria, for a mosquito declines to bite through a film of oil.

While I am sure that everyone feels that malaria was only one of the many factors in the decadence of those wonderful seats of civilization, and that social degeneracy was really the beginning, perhaps this led to neglect of many sanitary measures, of which this was one. Malaria, while not of a high death-rate, is doubtless responsible for many of the disabilities of the South where its elimination has been neglected. Dr. L. O. Howard has estimated that there are annually 3,000,000 cases in the United States, most of which are in the South, practically all of which are preventable.

PLAGUE

In plague we have a disease which has for centuries baffled sanitarians in their efforts to prevent its occurrence and spread. It was formerly believed to be communicated through the air and by the agency of fomites. The line of attack has been in the way of disinfection, with very inadequate results. It has been observed for many years that coincident with epidemics of plague, there was noticed a great mortality among

the rats from an epizootic attack, and in 1894 Yerzin discovered that the *Bacillus pestis* was the cause of the attacks, and that the plague in man and rats was identical. By further investigation it was shown by Simonds in 1897 that the rat flea was the responsible transmitter of the disease. It is now generally admitted that the disease is primary in rats, and secondary in man, and by a process of elimination, the flea has been fixed as the intermediary. Then, as Dr. Richard H. Creel, who did so much work in San Francisco during the recent epidemic, says, the elimination of the rat is the only satisfactory method of getting rid of this disease.

It is well worth while to destroy all fleas possible, yet if those infesting the rat population escape, the effort will have had little effect in preventing the spread of plague. Major Morehead states that effort at rat destruction, (referring to such measures as trapping and poisoning, when those methods alone are used) is of doubtful value. The most efficient means thus far for the eradication has been that adopted by the Marine Hospital Service—building the rats out of homes; constructing in such way as to leave no nesting-places, keeping their number down by depriving them of food and breeding-places. The various experiments of developing a destructive micro-organism, or poisoning or trapping, have all been found inadequate.

THE RAT

The rat is a recognized carrier of a number of diseases. He is subject to leprosy, cancer, trichinosis, plague and other serious maladies. Rats are of absolutely no value and are now recognized by the whole world as a menace to health and as carriers of disease, not only from one community to another, but from one country to another, as they are noted travelers, especially by vessels. From their great propensity to travel, the rat, from his native home in China, has over run the entire world. To-day a serious problem is the elimination of the rat both as an economic, as well as a health measure.

HOOKWORM

The hookworm disease in the south has been investigated by Dr. Charles W. Stiles of the public Health and Marine-Hospital Service. Hookworm disease incapacitates for about one-quarter of the time; it is popularly called "the lazy disease," and is responsible for the so-called "poor white trash" of the South. It is curable by suitable drug treatment, and its elimination from the South will be of incalculable benefit.

MENTAL DISEASES

Mental diseases are on the increase, judging from the data of Dr. C. L. Dana of New York, who sees, during the past twenty-five years, an increase from one case in 450 persons to one in 300, a ratio which seems to be about the same in North America as in Europe, where similar conditions prevail. This increase is doubtless due largely to the increase of alcoholic and drug habits and syphilis. It is estimated by Sanborn that the number of insane in the United States exceeds 250,000.

These diseases alone need a method of prevention, for it is recognized that nine-tenths of the inmates of institutions are incurable.

The line of attack must be against the predominant causative agent, heredity, alcohol, syphilis and environment. More enlightment of the profession as to early symptoms and a better knowledge by the laity will add to the possibilities of prevention by early methods of treatment. The elimination of the procreation of the insane, the criminal, the idiotic, is a timely subject. Such methods have already been adopted in Indiana, Connecticut and Michigan. Indiana has gone even to the extent of prohibiting the marriage of all persons suffering from any transmissible disease. This subject should be taken up by our Faculty and its possibilities and feasibilities thrashed out, before the next general assembly. We are fortunate in having a phase of it presented to-night by Dr. Barker as a preliminary to its future study. With the consent of the faculty I shall appoint a special committee to give serious consideration for our future endorsement or rejection to vasectomy in its relation to eugenics.

DRUG HABITS

Closely associated with this doubtless one of the most serious medical problems of modern times is that of drug habits, which are far more prevalent in a variety of forms, than is usually realized. The commonest form of intoxication is alcoholic. This problem has been attacked largely along moral lines, and perhaps much good has been done, yet it seems to be one that should be approached from the medical side, and by educational methods as well.

The popular impression as to the harmlessness of alcohol in moderate quantities is erroneous. It is shown by scientists that the white corpuscles, the natural defenders, are weakened by its use. The alcoholic is more susceptible to the infectious diseases, because of a lowered resistance. There is hardly a disease to which it is not a contributory factor, nephritis, arteriosclerosis, cirrhosis of the liver and many others, besides all the possibilities of transmission to the offspring of various insanities and mental afflictions. From an economic view, alcoholism was found, on investigation by Prof. Henry W. Farman of Yale University, to be responsible for 25 per cent. of all cases of poverty coming under the eyes of the charity organizations, and 37 per cent. of all cases in alms houses. It was directly responsible for 31 per cent. of the criminals, and indirectly of 50 per cent.

The Massachusetts Bureau of Statistics in 1895 indicated that 84.41 per cent. of crime, 48 per cent. of pauperism and 35 per cent. of insanity were the results of alcoholism.

VENEREAL DISEASES

The effort on the part of societies for moral prophylaxis to reduce venereal diseases is meeting with a degree of success in the education of the young people, and will doubtless prove of enormous value in the reduction of the incidence of such diseases. And while we know full well that continence is compatible with health, yet we all realize that continence is not as generally practiced as might be hoped. The question has presented itself, is it not better to recognize this fact, in this fight against the black plague and to teach a method of prevention although it may appear as condoning an unlawful act.

From these few facts I have endeavored to show that there has been a gradual increase in longevity. From the knowledge of past achievements it is fair to assume that, with the possibility of medical discoveries, the number of diseases which will be added to the preventable list will certainly increase.

Such diseases as cancer, nephritis and diabetes, are increasing, and the real causative factors are not recognized. The problems are yet to be solved. Cancer, regarded as a fatal disease of unknown origin, is now

engaging the attention of medical scientists, and while the facts thus far gathered are very vague and indefinite, yet with the great minds of the scientific world centered on it, the secrets of its cause must ultimately be ascertained.

GENERAL HEALTH PROBLEMS

The great problem of the future is the betterment of health by the education of the whole people as to its possibilities, teaching them the simple laws regarding food, drink, air and sleep. Our knowledge to-day is sufficient in itself, if it were employed, to increase human life at least fifteen years. Simply enacting laws will, in itself, be of little or no value, but such laws enacted and their value demonstrated to the people at large, preferably before their passage, will be beneficial just in proportion in which they are intelligently comprehended. The ideal time for teaching preventive medicine is in childhood; every school should provide some instruction along this line. The impressions of childhood are the effective, lasting ones.

The problems of health are not given great consideration by the usual adult. If he is an alcoholic, and has lived three-score years, this is attributed to the morning drink; if he were a smoker, tobacco has preserved him; if he were an abstainer, it is because of his abstemiousness. No one attributes it to a high degree of vitality; and here is the real problem in the fight against the usual diseases which decrease the breadth, and at the same time, while not in themselves fatal, lessen the length of life. The real problem, then, is to build up a constitution by prevention of diseases which we know to be preventable by sanitary means; to increase the efficiency of every individual by increasing his vital resistance, thereby establishing a bulwark against the inroads of many troubles which follow a depleted or lowered standard.

Another line of attack in the preventive measures should be an endeavor to prevent many diseases which lower the vitality, produce suffering and render soil suitable for the more serious maladies. Particularly is this true of influenza, and doubtless many of the non-fatal cases of infectious diseases in early childhood, which develop later into tuberculosis, nephritis or some other highly fatal disease.

PHYSICIAN AS AN ADVISER

Why should not the physician bear the relation of an adviser in health? Would it not be a wise and economical move on the part of the public to have an inspection of their vital resources at regular intervals, as they do of their physical resources? Is it not customary in mechanics to have a close watch kept over the machinery to prevent accidents and to maintain them in a high standard of efficiency? I believe that many diseases orginate in early childhood, causing much suffering in after-life, which could be arrested by such examination. The insidious attacks of many diseases of adult life, such as nephritis, diabetes and others, would be disclosed and suitable early treatment instituted, so as to prevent their extension. How often we are consulted about tuberculosis too late to be of much service, while an early examination would have discovered it in its incipiency.

How hopeless is cancer unless there is early recourse to operation! Examinations should be regularly made, often in early and late life, not so frequently in middle life. They should be suitably compensated for, and the physician in return should give a close study to diets, clothing and exercise, that each might be suitably individualized.

LEGISLATION

Along the line of health measures, which through the efforts of this state medical organization have become laws, I can make brief allusion to only a few. I would, indeed, be derelict in my duty were I not here to publicly congratulate the members of the General Assembly on their attitude on the health measures submitted to them for their consideration. The law-makers have realized that the public health is one of the most important assets of the state, and they have been guided by the views of the profession.

The presence of members of our profession on both sides of the house was of inestimable good in the cause of health, because of their ability to give lucid explanations to the lay members, and the profound confidence which their professional standing engendered.

The committees of this faculty on health legislation were indefatigable, and to them we owe a debt of gratitude for their untiring efforts.

The passage of the pure food law, drafted by the governor's commission, of which I was the chairman, was satisfactory to our faculty as represented by the committee. This law embraces every feature provided for in the faculty law to a most satisfactory bill, in that it includes a special proviso for standardizing disinfectants.

The passage of the bill for the state care of the insane places Maryland in the front rank of humanity, and corrects a condition which has been a discredit to the spirit of progress for which Maryland is noted. The measure will not only care for those who are incurably ill mentally, but will be the means of curing many early cases through supervision under trained specialists.

The enactment of the bills for the reorganization of the State Board of Health will systematize its work into bureaus, and thereby enable a closer watch to be kept on all the measures which protect the health of the people. Its appropriations will enable the bureaus to appoint specialists to watch over the departments, the water-supplies, sewerage, milk-supplies, and tuberculosis.

The passage of the midwifery bill as prepared by the committee, will be a great gain in the protection of mothers from incompetent and unintelligent women practicing midwifery. It will at the same time be the means of reducing enormously the percentage of blindness, for it has been demonstrated that nearly one-fourth of the cases in the Maryland blind schools have been in children delivered by midwives. The law was opposed by some who perhaps believed it impracticable, and for a time its fate was in the balance, when it reached the governor. His signature was secured only after the assurance of its practicability and value.

It, however, has brought it up squarely before the faculty, where they must endeavor to provide a way for its effective administration. We have now a law excellent in every detail; it demands that applicants to practice midwifery shall, to a degree, be instructed. At the present time we have no place for their instruction. The future committee on midwifery should endeavor to secure the cooperation of all hospitals with attached maternities, in order that such a course of instruction can be given. The Society for the Prevention of Blindness is fully alive to this immediate need, and will conjointly work with our faculty in this crusade against ignorance and disease.

With such results obtained by our faculty in its endeavor to secure legislation for the good of the people,

demonstrating that we have secured the confidence of the law-makers, it only remains for us to continue our campaign of education in matters of health, and to demonstrate our knowledge of disease and that will enable us to secure all the legislation needed for the future.

At the present time we must realize that measures which are inimical to the progress and dignity of the profession are often times introduced for mercenary purposes, as in the recent optometry bill, or through the efforts of the misguided or neurotic, as in the anti-vaccination bill, both of which measures were defeated.

ANIMAL EXPERIMENTATION

Such legislative efforts should remind us that it is incumbent on us to fully enlighten the public as to the true significance of vivisection, as there is a wave of opposition to its practice, sweeping over the country, fostered by deluded and misguided individuals, with their hysterical attacks of falsehood and calumny. Their grotesque and misleading exhibits all tend so to arouse the sympathy of the people as to inflame them to a radical and erroneous legislation. I believe it wise to take some heed of this mild form of insanity, which would arrest absolutely, the future advance of medicine.

Perhaps a small committee of hospital or college men to explain the means, significance and humane methods of experimentation on lower animals to the public by lectures, or through the daily press, would educate the people sufficiently, and offset the ravings of those so perverted as to believe that animal life is worth more than human, yet they themselves may not be vegetarians.

NATIONAL DEPARTMENT OF HEALTH

To correlate all these forces working for the uplift of man, to increase his health and thereby his happiness, there can be no greater assistance than to elevate the profession to the highest honor to which it is entitled, and there is no more potent way to increase its field of usefulness, to engender for it the confidence of the people, to spread the gospel of health, to discredit fads and quackism, than to harmonize all departments under a national department of health. For this every physician, and every county and state society, and finally the national association should strive.

PROMISE FOR THE FUTURE

Thus, when we look down the long vista of time and see one disease after another mastered by the science of medicine, and recall those reassuring words of Charles Darwin, "It is those who know litt'e, and not those who know much, who so positively assert that this or that problem will never be solved." I feel, indeed, that the future holds many promises for the betterment of the human race.

330 North Charles Street.

Positive Tuberculin Tests in Syphilitics.—Nicolas and Favre state that they obtained a positive response to the von Pirquet cutaneous and to the Mantoux intradermal tuberculin tests in 75 and 93 per cent. respectively of 28 and 47 syphilitics free from any suspicion of tuberculosis. This proportion of positive responses is as high as is obtained among the confirmed tuberculous, and consequently, they assert, neither of these diagnostic tests is able to differentiate tuberculosis from syphilis.—*Bull. Soc. Méd. des Hôp.*, March 17, 1910, page 239.

Original Articles

THE EFFECT OF STOVAIN ON THE NERVOUS SYSTEM*

WILLIAM G. SPILLER, M.D.,
AND
SAMUEL LEOPOLD, M.D.
PHILADELPHIA

As stovain produces temporary anesthesia, it occurred to us that repeated injections of the drug probably would produce anesthesia of gradually increasing duration until finally we might obtain a persisting loss of sensation, which would be the result of organic change. Whether the same may be said of any other drug has not as yet been determined. We desired to ascertain whether a systemic degeneration of the posterior roots and their continuation in the posterior columns of the cord is the common result of the repeated use of stovain. It was important, moreover, to determine whether the paralysis that occurs in stovain anesthesia is of a motor or sensory type, i. e., whether it is produced by changes in the peripheral motor neurons, or is the result of abolition of all afferent impulses which normally

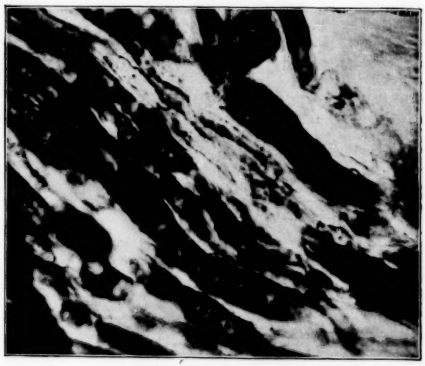

Fig. 1.—Section through a lower spinal ganglion, showing degeneration as small black dots, in the nerve fibers.

pass over the posterior roots. Reflex action and all recognition of tonicity or relaxation of the limbs, and necessarily of the position of the limbs, are lost if all peripheral afferent impulses are cut off.

Some investigations regarding the effects of stovain on the nervous system have been made, but they are not numerous, and in certain respects the results do not fully correspond with those obtained by us.

Spielmeyer found changes in the cells of the anterior horns from stovain poisoning in man, the dog and the ape, of the character of reaction at distance. In man the cells of the spinal ganglia were not affected. He regards the cellular changes as primary notwithstanding their character. The alteration was seen only in scattered cells. He has never seen degeneration of the white matter in the cord of man; at most he has found changes in the nerve cells of retrograde type. He has had five cases, three in apes and two in dogs, in which the degeneration was confined to posterior root fibers

* From the Department of Neurology and the Laboratory of Neuropathology in the University of Pennsylvania.

and their continuation in the cord, so that it would appear that stovain degeneration may at times be confined to the posterior roots. He seems to have depended on the Marchi method chiefly, and there is no mention of teasing of nerve fibers and of staining them in the fresh state. The degeneration affected the short fibers of the posterior roots, the reflex collaterals more than it did the long fibers. The stovain, he thinks, attacks the extramedullary portion of the posterior roots, and the degeneration of the intramedullary portion is secondary to this. This process differs from tabes, in Spielmeyer's opinion, because in tabes the degeneration begins in the intramedullary portion of the posterior roots.

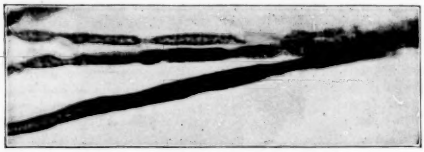

Fig. 2.—Fibers of a lumbar posterior root teased and stained with osmic acid, showing degeneration.

Spielmeyer states that the posterior roots outside the dural sac were intact, in contrast to the greatly degenerated cauda equina within the dural canal. In the spinal ganglia not only the peripheral but also the central nerve fibers appeared normal by osmic acid stain, so that changes were not noticed in the posterior roots until the roots had entered the intradural space and come into direct contact with the stovain. The degeneration of the anterior roots, in the cases in which the process was more extensive and was not confined to the posterior roots, began where the anterior roots made their exit from the cord, and the intramedullary portions of the anterior roots were intact. In both the posterior and anterior roots the products of disintegration were soon absorbed. The anterior roots were degenerated secondarily also in the portion beyond the dural sac, so that the anterior root in contact with a spinal ganglion frequently appeared degenerated while the ganglion and its nerve fibers at each end were intact. In ten experimental cases that Spielmeyer examined the posterior roots were predominantly or exclusively affected; he therefore concludes that stovain selects especially the posterior roots. He states that scar formation or inflammation plays no part; also that the degree of degeneration is not proportional to the amount of stovain used.

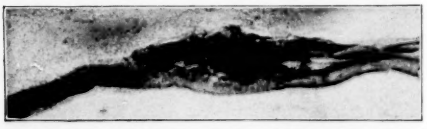

Fig. 3.—Fibers of a lumbar anterior root showing larger masses of degenerated myalin.

The changes in the cells of the anterior horns he found in man, as indicated in his illustrations, were pronounced. He found in animals swelling, displacement of the nucleus, and chromatolysis in the cells of the spinal ganglia. He thinks that the sensory and motor disturbances that occur after stovain anesthesia in man may be caused by similar changes in the spinal roots and in the periphery of the spinal cord, as are the temporary ocular muscle palsies from cellular changes; but pathologic studies are wanting in these cases.

Root degeneration has not been found in man, although Spielmeyer[1] studied the specimens from sixteen cases. In half of these cases death occurred too soon to permit the Marchi method to be employed. These findings are remarkable, as root degeneration was obtained in all his injected animals. The symptoms following injections in apes were not very positive. In dogs he observed temporary paraplegia with disturbance of sensation and of micturition.

The investigation as conducted by van Lier[2] and Wossidlo,[3] showed that the cellular changes were temporary. Wossidlo found, after injection, paresis of the posterior limbs, restlessness, frequent respiration and clonic spasm of the posterior limbs. Usually these symptoms disappeared after artificial respiration. In some instances opisthotonos occurred. The lumbar region was examined one to twenty-four hours after the injection, and he found chromatolysis and swelling of the cell. When stovain was used the most pronounced changes were seen after one hour. Scarcely any normal cells were found in the anterior horns. The changes were more pronounced after two hours, and improvement was noticed in the cellular condition after six hours. The cells were normal after twenty-four hours. Van Lier's findings were similar. They used rabbits. Wossidlo concluded that tropacocain was less dangerous than stovain or novocain and that changes occurred in the cells in lumbar anesthesia, but that they were not serious enough to prevent the use of drugs in this method.

Fig. 4.—Fibers of a peripheral nerve from a hind limb, showing degeneration. In many fibers the degeneration was more advanced.

Rehn could not demonstrate any changes in the cells of the anterior horns until after three days; then they were found in the lumbar, thoracic and cervical regions, and yet only a few cells in any one section were altered. The alteration began at the periphery of the cell, and the nucleus became peripheral. Animals that had lived ten to twenty-one days showed by the Marchi method, degeneration in the entire periphery of the cord and in the entire posterior columns, in the latter apparently systemic in character. Only cells in the anterior horns were affected; sensory cells were intact. Rehn's report[4] is of findings obtained by Klose and Vogt.

The technic of our experiments consisted in performing lumbar puncture on five dogs with careful avoidance of infection. The stovain solution used on Dogs D and E was boiled. The dose of each stovain injection varied from 0.05 gm. to 2 gm. and except in Dogs A and B, in each of which only one injection was given, the injections were usually at intervals of two to three days.

The symptoms may be divided into the temporary and the permanent. The temporary consisted of flaccid paralysis and complete or partial sensory loss. The hind limbs showed flaccid paralysis, while the entire body frequently showed the loss of sensation, implicat-

1. Spielmeyer: München. med. Wchnschr., Aug. 4, 1908, p. 1629; Neurol. Centralbl., Jan. 16, 1909, p. 69.
2. Van Lier: Beiträge zur klin. Chir., 1907, liii, 413.
3. Wossidlo: Arch. f. klin. Chir., 1908, lxxxvi, 1017.
4. Rehn: Arch. f. klin. Chir., 1909, xc, 329.

ing even the ear. Bladder and rectal control was lost, and the tendon reflexes were either diminished or absent. These symptoms occurred immediately or several minutes after the injection was given, and persisted from one to several hours.

The permanent symptoms consisted of ataxia, decreased sensation, and, in Dog E, loss of patellar reflex. The symptoms became permanent after the third injection, remaining until the end of the experiment. The ataxia was recognized by the irregular gait, and the tendency to stand with the hind legs well apart, and the peripheral part of the hind limbs well on the ground.

Fig. 5.—Section through the lumbar region (from retouched photograph) showing intense degeneration of the posterior columns.

Sensory disturbances were demonstrated by the clip test. Dog A lived one hour after the injection, Dog B four hours, Dog C seventeen days, Dog D 2 months and Dog E forty-two days. The investigations have not been completed, but the results obtained are interesting.

The alterations of the cells of the anterior horns were not important in any of the five dogs; in some slight central chromatolysis, and displacement and swelling of the nucleus were found. Dog D showed degeneration in the columns of Goll, more marked on one side, but dog E gave the most important results, and the following description is from the sections obtained in this case.

LUMBAR REGION

Axis cylinders in the periphery of the anterolateral and posterior columns were found here and there considerably swollen; some were of large size; swollen axis cylinders were seen in the root entrance zones of the posterior columns, but otherwise not in the posterior columns except near the periphery. A moderate degree of cellular reaction to the stovain was detected in the pia and roots of the cord in the form of round cell infiltration, but never as cells of polynuclear type. This is not a surprising finding and resembles what is seen in tabes. One would expect some cellular reaction to a poison affecting the nervous system as does stovain. A very slight perivascular round-cell infiltration was seen here and there in the cord; it was so slight as to be of no importance, and its existence was disputable. The swelling of the axis cylinders in the anterior and posterior roots was very distinct, and the swelling affected most of these axis cylinders. One forms the impression that the axis cylinders were more swollen in the anterior than in the posterior roots.

The posterior columns in the lumbar region were degenerated, as shown by the Marchi method, throughout a transverse section, but much less so in the ventral zones. The reflex collaterals were also much degenerated, and the degenerated fibers could be traced forward into the anterior horns. Small black dots were found along some of the anterior roots within the spinal cord, and this finding indicates a moderate amount of degeneration here. A slight degeneration was found by the Marchi method along the periphery in the anterolateral columns; it was far less intense than in the posterior columns. In the thoracic region the degeneration of the posterior columns was confined to the columns of Goll; the columns of Burdach seemed to be intact. The degeneration of the anterolateral columns in the thoracic region was insignificant. The lumbar sections were taken fully one and a half to two inches above the point of injection.

Anterior and posterior roots taken between the dural cavity and the posterior ganglia were teased in the fresh state and stained with a 1 per cent. aqueous solution of osmic acid. They presented considerable degeneration, chiefly in the form of minute black granules within the neurilemma sheaths, and the degeneration was more advanced in the anterior roots. One could not conclude from this finding that stovain affects the anterior roots more than the posterior; rather the finding would seem to imply that, the roots having been affected by the stovain within the dural sac, secondary degeneration would be found in the portion of the anterior roots examined, and retrograde degeneration in the portion of the posterior roots examined. Nerve roots taken from within the interior of the dural canal unfortunately were not examined by this method.

The nerve fibers in one of the lower spinal ganglia, placed in the fresh state in 1 per cent. osmic acid solution, showed intense degeneration of the fine granular variety. The cells of the ganglion presented little degeneration.

A nerve taken from the hind leg appeared intensely degenerated, when placed in the fresh state in osmic acid.

The method of studying nerve fibers in the fresh state with osmic acid, employed by us, does not appear to have been used in previous studies with stovain injections; it has given most satisfactory results. It is probably because of the employment of this method that we have obtained distinct degeneration in the posterior roots between the dural cavity and the ganglion as well as in the ganglion itself—findings not obtained by Spiel-

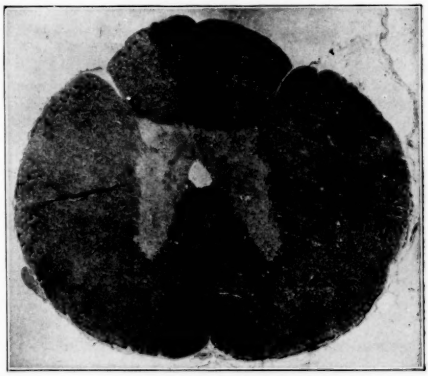

Fig. 6.—Section through the thoracic region (from retouched photograph) showing degeneration confined to the columns of Goll.

meyer. Our results differ from those obtained by others in the absence of important alteration of the cells of the anterior horns, although we employed the thionin stain for examining these cells.

It seems clearly demonstrated that stovain affects especially the anterior and posterior roots; the degeneration of posterior root fibers in our sections was intense; what is worthy of note, the degeneration of the intrame-

dullary portion of the lumbar and sacral posterior root fibers in the thoracic region was still intense. The posterior thoracic roots were unaffected. Stovain evidently also causes slight degeneration in the periphery of the anterolateral columns, but has less effect here than on the nerve roots.

These lesions obtained by us could not have been produced by the trauma of the needle, as the sections of the lumbar region examined were one and a half to two inches above the point of injection, and yet the posterior and anterior roots were greatly degenerated.

It would be unwarranted to apply these findings too strictly to man, as no grave changes have been found as yet in the human spinal cord. At most our findings

Fig. 7.—One of the dogs (Dog D) experimented on, showing ataxia of hind legs.

would show that repeated injections of stovain might be injurious, and would make one cautious in employing several injections within a short time in the same subject. We do not know whether stovain has more effect on the nervous system of the dog than on that of man.

The investigations show further that the paralysis produced by stovain is of the motor type, as the anterior roots were greatly degenerated.

NOTE ON CORRECTING THE PROOF.—Investigations made with magnesium sulphate have not given clinical results similar to those obtained with stovain. Four injections of ten drops each of a saturated solution of this drug have been made into the dural cavity of a dog, extending over the period from March 31 to the present time. No ataxia has occurred, the dog walks with the hind legs close together, and the reflexes are normal, but sensation of the hind legs seems to be slightly diminished.

We are indebted to Dr. Allen J. Smith for the photographs.

1906 Chestnut Street—1632 North Franklin Street.

Campaign Against Uterine Cancer in the Argentine Republic.—The *Sociedad de Obstetricia y Ginecologia* of Buenos Aires is sending out a blank circular to the general practitioners and gynecologists throughout the country asking for data in regard to the number of patients with uterine cancer that were in their charge during 1909. Details are asked in regard to the operability, operations, results of operation: survival for less than one year, less than 2, 3, 4, 5 or more years; deaths from the operation or complications, from other affections, or the ultimate outcome not known. The number of deaths from cancer of the genital organs in Buenos Aires amounted to 31 per cent. of the total female mortality from affections of the genitourinary apparatus during 1908. The appeal is published in the *Semana Medica*, 1910, xvii, 96.

FRACTURE OF THE PATELLA

THE OPERATION OF CHOICE*

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TYPES OF FRACTURE

Before the birth of antiseptic surgery Severino, the brilliant Neapolitan surgeon, in 1598 performed the first open-suture operation on a fractured patella. His patient died. Three hundred years later, Lord Lister, the father of antiseptic surgery, repeated the same operation. His patient lived. This bit of history is conclusive of little but suggestive of much.

Most frequent between the thirtieth and fiftieth year, rare under the twentieth, fracture of the patella is scarcely ever seen in children under 10. Eighty-eight per cent. of the cases are found in men. Of all bone fractures that of the patella represents 1.4 per cent. The decade between 40 and 50 years yields the highest number of cases.

We may distinguish the open and the closed types, the transverse and the longitudinal, the oblique, the stellate, and the comminuted. As many as nine fragments have been found in this fracture. Avulsions of the tip and of the basal margin are reported.

The line of division is central, or more commonly below rather than above the middle of the bone. The prepatellar fibrous tear may be above or below the line of bony separation. Often the lower end is ruptured; rarely the upper. Twofold and threefold transverse fractures are reported, the latter the result of refracture. In the compound fracture the T or Y-type is occasionally seen. The longitudinal form is rare. Comminution is frequent in direct violence, which constitutes 80 per cent. of all fractures of this bone. A fissure fracture may extend to the cartilage without involving it. The fracture may be simply subaponeurotic, with neither displacement nor other symptoms and discernible only through the *x*-ray.

Associated injuries are common and very significant. The dense ligamental fascia over the bone is almost always ruptured, the tear extending into the capsule, internally into the reinforcing tendinous fibers of the vastus internus and externally into the fascia lata—the extensor lateral expansion of the leg. With this condition the prepatellar bursa may be contused and there may be an effusion of blood into the joint.

The line of the ruptured aponeurosis is not always identical with that of the fractured bone. More frequently it lies above or below it, an intervening tab preventing bony union. This was the clinical observation of Macewen and König, afterward verified by Hoffa in his experiments on the cadaver. Barlöcker reported 28 cases with operation, in every one of which he found the fibroperiosteal intervention.

ETIOLOGY

The condition is usually the result of a fall, a blow, or a gunshot wound. Bähr and Rossi's statistics show that the effect of muscular contraction has been overrated. This variety of fracture can occur only when the knee is extended. Rossi held that ruptures of the quadriceps tendon or of the ligamentum patellæ was in-

* Read before the Medical Society of the District of Columbia, Feb. 9, 1910.

frequent, and that fracture, therefore, was due to a pathologic condition of the patella, or to a combination of muscular contraction and of indirect violence.

SYMPTOMS AND DIAGNOSIS

The bone breaks with a sudden snap, heard as well as felt by the patient. The limb cannot be extended. There may be no displacement of the fragments; the separation may be very slight or, as seen in transverse fractures, lie from ½ to 3½ inches apart, with a very appreciable transverse groove between. Usually the greater the separation the greater the hemorrhage into the joint. If on the other hand the fracture is partial or only subaponeurotic, the lateral portions of the capsule intact, the patient may walk without great difficulty. A prepatellar hemorrhagic bursitis may entirely conceal a fracture. Here the *x*-ray is essential to diagnosis, as it is in the rare incomplete and subaponeurotic form. Unless the fragments can be pressed together, crepitus is absent. With fracture of the patella hemorrhage into the joint is constant. Occasionally it is so great as to rupture the upper portion of the capsule and diffuse beneath the quadriceps. As an aid to diagnosis we have the history of the accident, localized pain and tenderness, disability, abnormal mobility with or without crepitus; the knee-joint is swollen and distended with blood; often the finger sinks readily between the fragments. Commonly we see swelling of the knee-joint, pain, palpable separation of the fragments, loss of extension; the patient cannot elevate his heel from the horizontal position, while lying, or, standing, lift the injured limb from the ground. Mobility of the fragments is the rule; crepitus is less common. In the attempt to coapt the fragments, the pain may be marked. There is an independent lateral movement of the fragments, pressure on either of which is painful.

We must differentiate the swelling of the knee-joint, in this condition greatest after eight hours, from a recent traumatic bursitis. In the former, the normal depressions about the joint are obliterated, the fluid is intra-articular; in the latter, the bulging is circumscribed and superficial. The one condition may complicate the other.

PROGNOSIS

Aside from age and complications, especially the extent to which the capsule is involved, the prognosis depends on the treatment. The greater the tear in the capsule and reserve extensors, the greater the loss of the power of extension, and therefore the graver the prognosis.

Atrophy of the quadriceps, absence of fibrous union and adhesion of the upper fragments to the femur are resultant deformities.

Fracture predisposes to refracture.

Refracture of the patella is more frequent than that of any other bone. In 250 cases of fractured patella, there were 30 recurrences, 11 after operative treatment, 19 after the non-operative. In 60 cases treated operatively, there was recurrence in one only.

Full use of the limb is rare; complete extension is seldom attained; limited flexion is the rule. In actual disability the thigh muscles are atrophied; in full return of function the loss by atrophy is regained, together with the normal size of the thigh.

Refracture is common, seen oftenest during the first few weeks of renewed activity; almost invariably it is within the callus. With refracture may be a complicating reopening of the joint. A refracture with the freshened edges sutured may give a subsequent bony union.

Thiem's studies would lead one to believe that bony union never takes place. Hoffa and others assert that it does. I can see no reason why bony union is not as possible, as probable, here, after exact coaptation and suture of the fragments, as it is in any other bone on which equal care and precision of adjustment have been exercised. One cannot doubt, however, that it is less common in the transverse than in the oblique or longitudinal varieties. In cases without operation especially cases of the transverse fracture, we may safely count only on fibrous union.

Union is generally secured at the end of the sixth week. Normal function is materially aided by the hypertrophy of the lateral expansion, and the contraction of the quadricipital and ligamentum patellæ fibers. The latest authorities on the subject say that while bony union has occurred, "it is very rare in transverse fracture" (Keen). "Even in some operative cases which have again come to direct inspection after many months, the union which was so close that no independent mobility could be recognized has been found to be fibrous" (Stimson).

Boeckenheimer in 55 cases of fractured patella found lacerations of the accessory ligaments present in 48.

TREATMENT

Non-Operative and Operative

Five factors contribute to improper coaptation of the parts: (1) contraction of the extensors; (2) tear of the lateral aponeuroses; (3) intra-articular hemorrhage; (4) fibro periosteal interposition; (5) tilting of the lower fragment, forward or backward. Proper treatment therefore must correct all five of these defects.

The Non-operative Method

In the absence of rigid aseptic technic, no one at all familiar with these conditions will deny that non-operative procedure is best; especially in the aged and in those cases in which accurate approximation is without difficulty and in which contusion is so great as to preclude primary union of the bone. The leg and thigh should be raised to an oblique angle with a well-padded posterior splint, a little wider than the limb, extending from the hip beyond the heel, with the heel itself thickly covered to prevent pressure soreness. Absorption is thus hastened. Aspiration under antiseptic precautions with elastic compression and massage, ten minutes three times a day, are valuable aids. After an elapse of five or six days when the effusion has subsided, with the limb still extended so that the quadriceps is relaxed, the fragments should be brought into accurate apposition by means of six or eight one-inch adhesive strips applied three or four above, three or four below, the line of fracture, each overlapping one-half the other and all brought around and fastened to the posterior splint. Finally an additional strip, broader than the rest, should be applied over the center of the fracture to prevent any tilting upward or forward. It is advisable to leave these firm and untouched for six weeks. An excellent substitute for the posterior splint is a removable plaster mold extending from the groin to the toes, split in the median line after hardening, and held tight by a spiral roller bandage running full length. This permits removal for examination at will and is easily reapplied. With the aid of crutches at the end of six weeks the patient first places his foot lightly on the ground, and gradually, as the days elapse, permits it to

withstand his weight. It is best to continue this protection and support to the knee for six months, following passive and active motion at the end of the sixth week. Crutches are discarded at eight weeks, the cane and removable splint at six months. Due care during all this time should be exercised to avoid falls, sudden and jerking movements to prevent refracture.

Hemorrhage, if imminent, may be retarded, if not prevented, by wet compress, bandage, and elevation in the Volkmann splint, to relax the extensor; or the region of the knee may be firmly bandaged from below upward with a rubber elastic bandage and put on a well-padded posterior splint, unmolested for forty-eight hours. If there is much distention about the joint Schede aspirates.

If open suture is inexpedient Bardenheuer and Lichtenauer use weight extension, 30 to 40 pounds, to relax the extensors, continuing this from four to six weeks until union is accomplished.

Fibrous union often occurs with a limited extension and flexion, as is seen in the protracted fixation of a plaster splint, with such sequelæ as shrinkage of the capsule, adhesions, and atrophy of the quadricipital group.

Where the lateral expansions have not been involved, on the other hand, only a small amount of functional impairment may follow the fibrous cicatrix.

Metzger, Tilanus, and others, have recommended early massage and mobilization. Tapotement and kneading are begun during the first forty-eight hours following the injury, directed to the joint as well as to the muscles of the leg and thigh—the fragments held the while by an assistant. The upward stroke aids in blood resorption. Individual cases are helped by the faradic current. Under this treatment passive motion is begun at the end of the first week; the patient is allowed up at the end of the second, when light exercise is instituted; first walking on crutches, then with a cane; finally at the end of the sixth week, he is discharged.

The extreme methods of zum Busch and of Kraske are not to be recommended. For as observed by Soutter, the value of massage is unquestionably overestimated. True, it does aid resorption of intra-articular, peri-articular and intramuscular diffusion. Increase and preservation of muscular tone can only be accomplished through exercise. If the reserve extensors are ruptured entirely or even for the greater part, loss of function leads to inevitable atrophy of the extensors in spite of ample massage and early exercise. Further, the muscular contraction under these circumstances separates more widely the fragments and adds to the labor of operative procedure later on.

Aspiration of the blood is unsatisfactory because of the debris, clots, etc., and is attended with the danger of infection.

To despair of bony union at the outset is for the physician to acknowledge a misplaced confidence on the part of the patient. On the contrary it would seem advisable in most cases to attempt exact coaptation and ossific union by the direct method, and to prevent ill results by instituting muscular massage at the beginning, followed by passive motion during the first week, and active motion after the second.

The Operative Method

Trendelenburg recommended a delay of eight days in the operation with a view to determine the chances of recovery without it and to allow for subsidence of the swelling. If open suture is clearly indicated why should we delay twenty-four hours unless it be to impugn our present-day technic? Do we not get the patient out just eight days earlier by an eight days' earlier operation?

As a rule the operation should be as early as possible.

Various incisions are in use, such as the transverse—the longitudinal |, the semilunar with convexity upward ∩, the semilunar with convexity downward ∪, the semilunar with convexity inward), the semilunar with convexity outward (, and modifications of all six of these.

Some use drainage, some do not. Intra-articular drainage except in plainly septic cases is to be condemned.

Some irrigate the articulation, some use the dry sponge, some do neither. The solutions used are bichlorid, 1:1500; phenol in various strengths, physiologic salt solution, and sterile hot water.

For suturing both hard and soft structures, materials of both absorbable and non-absorbable character are in use. Some use pegs. Most common of the absorbable sutures may be mentioned plain and chromic catgut, and kangaroo tendon; of the non-absorbable, silver wire, iron wire, aluminum bronze wire, copper wire, Pagenstecher thread and heavy silk.

Men of equal surgical skill and ability differ widely as to their methods of operation. What then is the best method? The answer to this question should be based not only on theoretical grounds but on the study of the pathologic conditions found and on the final results.

When operation is clearly indicated I believe it done best when done most quickly. What is the operation of choice for fracture of the patella? Having observed and followed up a number of cases I would humbly suggest the following as the operation of choice:

The time should be as soon as possible after the injury; the operation should be done under ether anesthesia, with the strictest aseptic technic, gloves and exclusively instrumental handling; the semilunar incision with convexity downward should be used, commencing a little above the fracture line internally and carrying the oval incision downward and below the tibial tubercle and up on the external lateral surface to a point opposite that of the beginning. The flap should be turned back on itself to expose both the fractured bone and the ruptured aponeuroses, and the interposed fibroperiosteum removed. The joint should be thoroughly and completely irrigated and all clots and liquid blood removed with hot sterile physiologic salt solution (or 1:5000 bichlorid, followed by sterile water, if there is the slightest suspicion of infection). Stout bone-forceps now hold steadily the fragments while the bone-drill, directed obliquely through two thirds its thickness and always avoiding the joint, is passed through each fragment, the holes in the upper and lower fragments being in exact alignment and always as few as possible. Both points of entrance and points of exit in each bone should correspond with those of the other. The drill-holes throughout are from without inward and, as stated, always as few as circumstances will permit, and just large enough to accommodate wire of the smallest diameter practicable. All drilling is completed before inserting the wire. The wires, preferably silver or iron, passed, they are grasped with blunt-nosed forceps, and while the assistant carefully approximates the margins, the surgeon tightly twists the wires three or four times on themselves, cuts them off a quarter-inch long, bends them down and buries them beneath the fibroperiosteum, which is then sutured above. If the fibro-periosteum be interposed and is ragged when drawn out, its edges

should be neatly trimmed of roughened projections, carefully coapted after the bone is sutured, and stitched, first with interrupted chromic catgut and reinforced with a continuous suture of the same material. The rent in the capsule, so common on either side of the fractured bone, is repaired with equal carefulness and with the same suture material. An additional continuous suture of fine chromic gut is used to repair the fibrous covering of the patella incised in raising the oval flap. The skin flap is then sutured with three light silkworm-gut sutures, the first in the center at the tibial tubercle, followed by one each at the halfway point on the ascending lateral line of incision, and this in turn followed by a continuous fine plain catgut suture of the entire skin wound. No drainage is used; a moist bichlorid compress over the site of the wound is followed by a sheet-cotton bandage from toes to middle thigh, and over this a light removable split plaster mold, applied with the limb in complete extension, in which it is kept, heel slightly elevated, with as little interference as possible for two weeks. Then massage is used, passive motion, light exercise, walking on crutches, then with a cane, and then with mold splint alone; and finally, at the end of the sixth week, without any support whatever, the patient is discharged as cured.

In support of this method the following points of advantage may be cited:

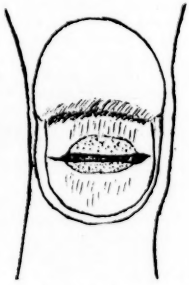

Fig. 1.—Incision of the author's choice.

There is no loss of time; the safest anesthetic is used; absolute exposure of the entire field of injury is obtained, especially of those most important structures, the lateral expansions; the articulation is made perfectly clean with a non-irritating solution; a suture too small to excite irritation is used and one that is non-absorbable, therefore effective to hold till union has had abundant time to take place; there is no necessity for post-operative drainage; activity is too late to fear fracture recurrence, too early to invite atrophy; and though of exceptional occurrence, a tear of the accessory ligaments with no separation of the bony fragments noticeable on inspection or palpation would be exposed. Immediate operation admits of union by first intention.

Fibrous union leaves a weakness, an uncertainty, an instability, a timidity on the part of the patient, frequently resulting in his falling, which in turn induces refracture. Absolute functional recovery in fibrous union is exceptional.

Small incisions fail freely to expose the operative field, render difficult the cleansing of the joint and the repair of the lateral capsular and aponeurotic tears.

The vertical incision leaves a cicatrix exposed to pressure on kneeling and remains tender, limits the field of operation, makes difficult the passage of wires; the rents in the lateral expansion are not easily reached; and manipulation of the fragments is difficult.

The transverse incision is open to the objection that often the osseous and cutaneous cicatrices correspond, increasing the facility for compound refraction; infection, too, passes readily from the outer to the inner wound; a stitch abscess may produce a septic arthritis; drainage is difficult.

A flap with convexity downward has a better arterial and nerve supply; it admits most easily of drainage.

Irritating antiseptic irrigations, such as phenol, bichlorid, etc., are injurious to the joint endothelium, lower its resistance to infection, and predispose to inflammation. Physiologic salt solution accomplishes the same purpose as the irritants without any of their disadvantages. Dry sponging, in cases in which the parts may readily be reached, is preferable to either.

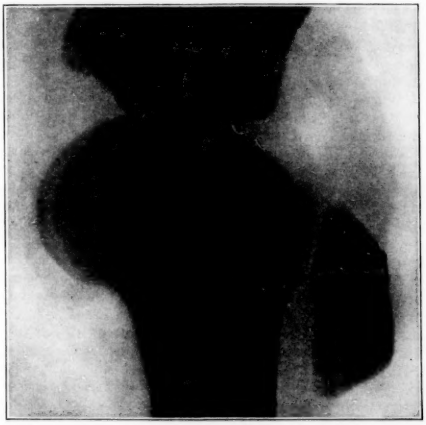

Fig. 2.—Author's method of wiring. Joint radiographed day after operation by Dr. T. A. Groover; the wire does not enter the joint; its head is turned down and buried beneath the fibroperiosteum.

Patient (for whom author is indebted to Dr. George Tully Vaughan), A. H., aged 20, male; on the afternoon of July 14, 1909, while running, stumbled, fell to the ground, and was unable to assume the upright position afterward. He was brought to the Emergency Hospital, where examination showed transverse fracture of patella, fragmentary separation 2 inches, showing considerable involvement of the lateral expansions; knee-joint much swollen, painful, and distended with blood; extension lost; wide lateral movements of the fragments. Operation next morning—open method, wired—patient discharged, cured, Aug. 21, 1909. The technic, operative and post-operative, was that described herein.

The question may be asked, when the open operation is indicated, when contraindicated. It is indicated in fractures productive of functional joint impairment, such as those in which fragments have entered the articulation; in the one-legged, in whom ankylosis following fracture would produce complete inability to walk; in bilateral fracture of the patella; in refractures; in ununited fractures, the result of attenuated fibrous union or faulty position; in unrepaired aponeurotic laceration.

The open method may be confidently recommended in the presence of an aseptic environment, a competent surgeon, safe suture material, favorable physical condition of the patient, bad position of fragments, in all compound fractures, all comminuted fractures, in pro-

fuse intra-articular effusion, hemorrhagic or inflammatory, in interposition of the fibroperiosteal tissues.

In compound fracture the necessity for open suture is self-evident; so, too, if bandaging fails, and also in the presence of a weak, extensile fibrous repair.

When is it contraindicated? In the diabetic, in advanced tuberculous disease, in chronic cardiac, renal, or hepatic disease, in longitudinal fractures of the closed type and without displacement, in simple subaponeurotic or incomplete fractures, and those in which separation of the fragments is so slight as to be barely detectible.

Malgaigne's clamp and Trélat's modification thereof are to-day merely historic.

To the subcutaneous work of von Volkmann, in 1868, of the earlier labors of Kocher, Ceci, Heusner, Butcher, Barker, and the rest, I am compelled to make the same objection as to every other subcutaneous method, namely, that the interposition of the periosteum and the lateral tears are disregarded; further, that the joint may be opened. The only point in its favor is the fact that it was the forerunner of the direct suture method.

As between Lister's transverse incision at the fracture line, and a longitudinal or transverse incision not in line with the fracture, the latter is to be preferred.

Strict asepsis is the first requisite and the last indispensable point in the technic of the open operation. Nowhere are results better with it; nowhere worse without it. An infected arthrotomy is more to be dreaded than an infected laparotomy. Palpation with a gloved hand should be reduced to the minimum. If possible the operation should be entirely instrumental.

If the quadriceps is much retracted and the attempt to approximate the fragments fails when the thigh is flexed, the muscles fully relaxed, and the knee extended, then a plastic operation may be done by division of the ligamentum patellæ or the quadriceps.

Where separation is considerable, Rosenberger, Helferich, Wolff, Tenderich, and others have recommended osteoplastic operations with varied results. All methods failing, strong elastic bands may be made to duplicate the action of the extensors and must be permanently worn. Ankylosis following resection of the patella is better for those who cannot afford expensive apparatus —a last resort it is true, but to be preferred to a limb incapable of extension.

Suture of the ruptured peripatellar and parapatellar aponeuroses is of the utmost importance. Whether it be of the quadriceps tendon or of the ligamentum patellæ, it is an injury the repair of which is equal in importance to that of fracture of the patella itself. Immediately following fracture of the patella the lateral expansion of the rectus, vasti, and sartorius, together with the fibers of the fascia lata proceed at once on the vicarious function of extension.

Following are statistics of thirty cases treated in the Massachusetts General Hospital, in which final results were noted:

Unsutured, 6 cases, as follows:

Result.	Cases.	Per cent.
Perfect	3	50
Fair	1	16.5
Poor	2	33.5
Serviceable knees	..	66.5

Sutured, 24 cases, as follows:

Result.	Cases.	Per cent.
Perfect	17	65.5
Fair	5	19.0
Poor	4	15.5
Serviceable knees	..	84.5

CONCLUSIONS

As between the operative and non-operative methods, in the absence of a competent surgeon with all antiseptic precautions, the non-operative, conservative, treatment should be the rule. On the other hand operative procedure obtains a better functional result and obtains it much more quickly than the non-operative procedure, and may be confidently relied on in the hands of those who have formed the habit of taking all the necessary precautions.

With operation, the chances for bony union are far greater; the torn aponeuroses can be repaired and there is far less danger of refracture. The most satisfactory results are obtained by the oval incision, convexity downward, and suture of the patella; by this method joint diffusion is promptly relieved by irrigation or dry sponging; the fibroperiosteal interposition is entirely removed; apposition of the fragments is exact; tilting is corrected; massage and passive motion can be begun earlier, the whole process of repair, recuperation and convalescence is hastened. It admits of prompt and complete removal of all detached bony fragments; all articular effusions, and all extravasated blood, intra-articular or extra-articular, liquid or clotted.

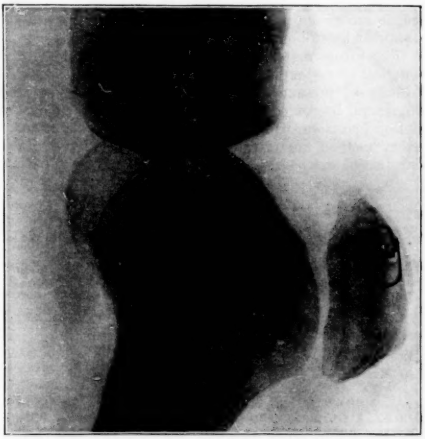

Fig. 3.—Same case as shown in Figure 2. Joint radiographed seven months after operation by Dr. T. A. Groover; illustrating bony union; function almost perfect, flexion 45°, extension 180°, respectively. No atrophy of the quadriceps; patient goes up and down stairs without difficulty.

The subcutaneous operation is to-day obsolete. Its latest chief advocates, König and Kocher, are now most enthusiastic in their adoption of the open method.

The circumferential loop has few followers, as has that method by which the bony fragments are simply apposed and the suturing confined to the peripatellar tissues.

The dangers of the open method, done under proper precautions and by competent men, are practically *nil*. A point deserving of special emphasis is the after-care of the patient—an absolute requisite to success.

In interposition, operation is imperative.

Wire should never be carried deep enough to penetrate the joint as it will irritate the cartilage and produce an arthritis.

Impaired function results in union from faulty position.

The combination of the interrupted and reinforced continuous chromic catgut suture is the making of assurance doubly sure.

Absolutely accurate coaptation and repair of the accessory extensor aponeuroses are vitally essential—in some cases even *more important than coaptation and repair of the bone itself*. Eminent authorities to the contrary notwithstanding, bony union of the transverse fracture—the one most difficult of functional repair—can certainly be accomplished if the carefully sutured bone is reinforced by an equally carefully sutured aponeurosis.

If exposure is decided on at all then ample exposure of the field of injury under aseptic precautions is always justifiable.

Other things being equal, the oval incision, convexity downward, admits of the best drainage, should necessity for drainage arise; while at the same time it retains anatomically the best arterial and nerve-supply.

The most progressive European and American surgeons are in one accord that by far the best results are obtained by the open method and suture.

The suture material, if non-absorbable, should be the smallest consistent with the requirements, and the possibilities of pressure-necrosis should be reduced to the minimum by complete extension of the limb held in the oblique position, which insures the great desideratum of every method of treatment—complete inactivity of the quadriceps extensor.

A WATER-CURTAIN FOR COOLING ROOMS

PRACTICAL FOR CROWDED WORKROOMS, FACTORIES, HOSPITAL WARDS, TENEMENT HOUSES, AND FOR COLLECTING DUST

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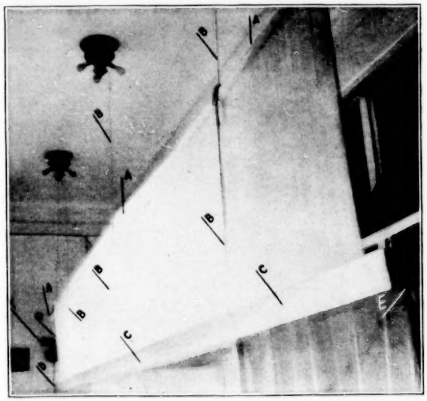
It is intended to show, by the illustration here presented, a simple, cheap, but effective, method for reducing the temperature and collecting dust in sick-rooms, crowded factory workshops, tenement houses, etc., during the summer in large cities, which may also be adapted to residences in tropical countries.

Various methods have been in vogue for cooling purposes in large buildings by the use of ammonia and brine coils, but they are very expensive to instal, often costing thousands of dollars, and are heavy and cumbersome. There are other possible objections to be urged against the refrigerator method. For instance, all windows in the rooms must be kept closed, and for this reason, in the subtraction of moisture from the atmosphere, there is a possibility that with the condensation of the aqueous vapor in the form of frost on the coils other necessary normal constituents of the atmosphere are extracted and withdrawn at the same time. Too great a chill may be produced in contrast to the hot weather and high temperature elsewhere existing outside the building in which the ammonia system has been installed, with, of course, disastrous results, so far as health is concerned, to employees or occupants of the building on emerging into the heated atmosphere from the cooler air, or the rapid cooling of a perspiring body on sudden, incautious entrance into a chilled room.

The simple, safe, old-fashioned method of shaking out wet towels in the sickroom and hanging them over the head of the bed to cool the temperature, as practiced for many years in country districts, gave me the first idea on which I have attempted to elaborate somewhat and to utilize and adapt it in a large way to modern living and working conditions in large cities during the hot season.

The system is one of absorption of moisture by the atmosphere and varies, of course, with the humidity present in the air as to the amount of water taken up by evaporation. The tests were made in the emergency room at the Government Printing Office, Washington, D. C., which is approximately 45 by 15 feet in size. I have been enabled to reduce the temperature from day to day, the reduction varying from 6 to 11 degrees F., through the amount of humidity present and temperature of water during the past summer. When a temperature of 96 F. or 98 F. exists, in the shade, the reduction mentioned is very much to be appreciated.

The water-curtain is made up and consists of a tin speaking-tube (*aa*), the sections of which have been



Water-curtain for reducing temperature in sick-rooms, factories, etc.

soldered together and perforated with one-eighth-inch holes at a space of one inch, to make the required length of 40 feet for the experiment. The speaking-tubes, of course, by adding sections, can be made any required length up to even 300 or 400 feet, if necessary. From this hangs suspended a strip of cotton twill some 3 feet in width and 40 feet in length. In the top of the curtain a large hem has been taken, through which the perforated tin speaking-tube is run, somewhat like a window-blind stick in a window-curtain. The tube is connected at one end with an inlet (*dd*), consisting of a piece of rubber tubing connected, in turn, with a water-faucet on the wall, the other end of the described tin tube being blind. Perforations in tin tube can be made with a nail. The rubber tubes at *dd* and *ee* are connected with trough and tin speaking tube within them, respectively, by means of tin "thimbles" or small tubes surrounding the orifices made for outlet and inlet.

A box suspended against the wall over the curtain and lined with zinc to prevent leakage may be utilized, if there is no running water in the room, and may, in addition, be filled with ice, which will serve to give a

degree or more lower temperature than the city water-supply. A wash-boiler with faucet on the end will answer nicely for this purpose.

At the bottom of the cotton fabric is a tin trough (*cc*), in the center of which, at the bottom, are soldered eye screws, which, in turn, connect with an iron rod pushed through a hem taken in the lower part of the curtain or fabric. This enables the curtain to be drawn taut and hang directly down into the trough (*cc*) and prevents dripping from the sheet above to the floor.

The water-curtain is suspended from the ceiling by chains or rods (a clothesline answers very nicely), which, affixed to the ceiling, continue downward to the tube (*aa*) and thence down to the edge of the trough (*cc*), thus giving the necessary balance and stability to the whole scheme, as shown in *bb*.

The trough is set slightly at an incline to give the necessary runway for drainage purposes through the pipe marked *ee*, which may be allowed to run waste or be conducted back by a siphon effect to *dd* and there mix with the cold fresh water and be utilized over again.

At the point marked *f* an electric fan is placed directly at one end of the curtain, which serves to hasten the rapid evaporation of the water from the curtain by a continuous series of serpentine or wave-like movements imparted to the sheet its entire length; but in cases in which the fan cannot be employed, the same effect (a continuous lowering of the temperature) is obtained, but almost twice the length of time is required to reduce the temperature in the room to the same degree.

One of the advantages of this method is the fact that it will continue its work without further interference or manipulation during a hot night, in a noiseless manner, and requires no more attention than the simple turning off or on of the spigot or faucet on the wall connected with the rubber tube (*d*).

The curtain, by means of the water escaping by capillary attraction downward, is kept in a state of saturation to an excess, and it is, therefore, constantly soaked and dripping with water.

Formalin or similar agents may be conducted into the inlet (*d*) from a container placed somewhat higher up on the wall than the curtain, in such proportion as to mix with the water at a given percentage, and, in addition to the reduction of temperature, accomplish germicidal results.

The well-known natural law of the attraction of smaller bodies toward a larger mass is taken advantage of in the collection of dust in the air, which is held in place by the cohesive wet surface of the curtain. The fabric may be removed for washing purposes in a few moments' time after it has been covered with dust in the manner described, and a clean, duplicate fabric substituted.

No method, feature, or appliance has been patented in connection with curtain, and it may be freely utilized by individuals or hospitals for their respective needs.

It will be noticed that the whole system is very inexpensive, the tin speaking-tube costing but two cents a foot, the necessary trough five cents a square foot (constructed by any tinner), the cotton twill six cents a yard, and the rubber tubing eight cents a foot.

This opportunity is taken to thank my assistant, Dr. D. P. Bush, for interest shown and for valuable services rendered during the construction of curtain and while conducting the experiment.

1246 Eleventh Street.

THE TREATMENT OF GONORRHEA WITH REFERENCE TO THE QUESTION OF STERILITY*

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CHICAGO

In 1901 there were approximately 162,372 patients suffering from venereal disease in New York.[1] Although we have never had any investigation to compile statistics here in Chicago, I have no doubt that the number of venereal patients is equally great. In New York 15,969 cases of gonorrhea were reported, of which 1,941 were in women. The proportion of men to women is about 15 to 1; of these one-third were in women who were infected after their marriage.

While it does not seem possible to limit promiscuous sexual intercourse, it does lie within the bounds of possibility to limit the transmission of the disease by "bacillus-carriers" through a careful and systematic management of cases from the microscopic standpoint of the discharge.

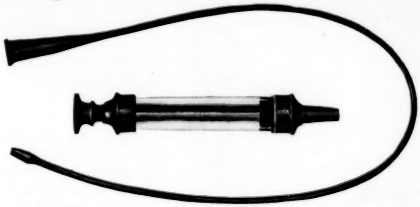

Fig. 1.—Guyon capillary syringe.

The gonococcus has its own peculiar characteristics which enable it to be differentiated from other organisms. It grows best on ascitic fluid agar and its macroscopic appearance is fairly characteristic. The colonies when grown twenty-four hours at 37 C., appear circular, resembling dewdrops, are grayish blue and transparent, slightly iridescent, and about 1 mm. in diameter. In gonorrheal pus the prevailing form of the diplococcus is the "coffee bean" or "roll" shape.

The gonococcus is particularly characterized by being found within the protoplasm of the pus cell and never in the nucleus. Although appearing in thick smears to be within the nucleus, the bacilli are in reality on top. This position is less frequent in the early stages, but it is the rule in the stage of excessive purulent inflammation. In the later stages there are fewer leucocytes and the cocci are found in the epithelial cells or often free in groups. In acute and chronic cases the cocci are often extracellular.

In recent gonorrheal infections of the genital mucosa, the microscopic demonstration of the gonococcus is not difficult. The many methods for staining the gonococcus have no advantage over Loeffler's methylene blue, because they are of no value in differentiating it from other organisms, as they all take the stain. By the addition of a little ammonia to Loeffler's methylene blue, the leucocytes, epithelial cells and cocci are all intensified and as a consequence the picture is made more vivid.

The only staining method which possesses any certain value for differential diagnosis of the gonococcus, how-

* Portion of a paper read before the Chicago Medical Society, March 2, 1910.

1. Med. News, 1901, lxxix, 962.

ever, is the Gram method. If the smears have been made evenly thin and have been properly stained, the gonococcus in gonorrheal pus and in cultures is always completely and rapidly decolorized. In the same manner they can be differentiated particularly from a number of cocci, including some diplococci, which occur under the normal[2] conditions in the male and female genital tract.

Nevertheless, microscopic examination in gonorrhea, especially in chronic cases in which a few suspicious cocci are found, is not always dependable. In such cases it may be necessary to culture the organism.

The most frequent cause of sterility in the male is gonorrheal epididymitis.

If the epididymes are attacked by inflammation, complete obliteration of the ducts not uncommonly results. It is immaterial from what cause the inflammation develops, the results are the same; all depends on the degree and extent of the inflammation. An injury to the epididymis, syphilis, tuberculosis, carcinoma and sarcoma may produce an occlusion, but these conditions are indeed rare in comparison to gonorrheal epididymitis, which, according to statistics,[3] occurs in 7 to 14 per cent. of all cases.

Fig. 2.—Urethral clamp.

ANTERIOR URETHRITIS

With the passing of the irrigation treatment for acute specific anterior urethritis, the attending posterior urethritis with its complications is fast diminishing. During the past three years I have treated about 200 cases of urethritis in private practice and the resulting involvement of the epididymes was less than 0.5 per cent. The management of the cases was as follows:

INSTRUMENTS AND MATERIALS

I. INSTRUMENTS

1. Capillary Guyon syringe.
2. Large glass syringe with blunt nozzle holding about 10 c.c.
3. Set of sounds or flexible bougies.
4. A suitable clamp for holding the meatus.

II. MATERIALS

Two per cent. stock bottle albargin in dark-colored bottle.

Four dark one-ounce bottles containing respectively 0.25 per cent., 0.5 per cent., 0.75 per cent., and 1 per cent. nitrate of silver.

Having satisfied myself that I have a specific urethritis to deal with I proceed as follows:

The patient is instructed to urinate in two glasses (this test is of no value unless the patient has held his urine for at least four hours). In a large majority of acute cases, if seen before the fifth day, the infection has not yet become posterior, as will be seen by the urine glasses, the first will be cloudy with specks, the second clear, showing that the case is one of a simple anterior urethritis.

2. Kütscher Berl. klin. Wchnschr., 1909, xlvi, 2059.
3. Finger: Blennorrhœ, Leipsic and Vienna, 1905, p. 309.

If the cases are handled according to the following method, there will be no further trouble:

The patient is placed on his back (or if one prefers to have him stand there is no objection, unless there is an extreme grade of inflammation). Ten c.c. of a 2 per cent. solution of albargin heated to 104 F. are gently injected into the anterior urethra by means of the glass syringe. Pressure is made at the juncture of the anterior and posterior urethræ to keep any fluid from passing backward. This is especially important in cases of relaxed external sphincters. This solution is held in the anterior urethra three to four minutes, by means of a small clamp that gently holds the meatus together. After allowing the injection to flow gently out, a loose dressing is placed over the penis to allow for good drainage. On no consideration is the patient allowed to crowd cotton between the folds of the prepuce to check the discharge.

The patient is next given a hand injection, either 0.25 per cent. protargol, or 0.1 per cent. albargin, and instructed to use it four or five times a day, care always being taken not to use any force and to make pressure at the posterior end of the anterior urethra during the injection. For the high-grade local inflammation that is always present and which is exaggerated by the warm injection, the patient is instructed to immerse the penis in a glass of hot water for fifteen minutes, two to four times on the first day, always using great care to keep the water as hot as possible the whole time. This procedure will rapidly take out the inflammation and permit the continuance of the treatment.

On the second day the discharge is examined and carefully noted, to see if the gonococcus is still present. Occasionally, when the duration of the urethritis is under thirteen hours, one injection is sufficient to drive the gonococci out of the urethra. Whether they are present on the second day or not, however, I continue the treatment for four days; 2 per cent. albargin hot in the anterior urethra at the office and the hot immersions and injection at home. If for any reason on the second or third day there is the slightest suspicion of a hemorrhage, cold 2 per cent. albargin solution is substituted for the hot solution, and the patient is told to reduce his hand injections to one or two times a day, but to continue the hot immersions as previously.

On the third day the discharge is again examined and a careful search is made for the gonococcus. If cocci are absent, the same treatment is continued for another day (four days in succession); on the other hand, if they are still present, the treatment is continued until the organism is absent and has remained so for four successive days, great care being always taken to discontinue the 2 per cent. albargin entirely if the hemorrhage is in the least persistent. If the hemorrhage is at all severe, all local treatment within the urethra is suspended, but the suspension in hot water is continued.

We now assume one of the following: Either (1) that the gonococcus has disappeared entirely from the urethra, or (2) that it has invaded the deeper layers of the mucosa or glandular tissue and does not appear in the discharge.

Now, provided the organism has been absent for four successive days and the local inflammation has subsided, a 1 per cent. nitrate of silver solution is gently passed into the anterior urethra. With this solution in place the urethra is gently massaged, the same precaution always being used about constricting the anterior urethra at its junction with the posterior urethra. The

1 per cent. nitrate of silver acts as a harrow; it causes a large amount of desquamation and in so doing may dislodge any organisms that have invaded the deeper layers of the mucosa.

The patient is instructed to continue his hand injection for two days, at which time he presents himself for another microscopic examination. If on the second day after the 1 per cent. of silver injection, the gonococcus again makes its appearance, it is necessary to start from the beginning, treating this acute exacerbation as an acute attack, and to proceed all over again. On the other hand, if no organisms are present, a well-lubricated bougie (one that just fits into the meatus snugly) is passed the length of the anterior urethra, care being taken not to produce any traumatism. With this in place the urethra is gently massaged. This is followed by a 2 per cent. albargin injection cold.

The patient is then instructed to use his hand injection for several days longer, and at the end of which time, if there are no organisms present, he is given a rest for five days, being instructed to return at the end of the fifth day. If the microscopic examination of the discharge shows no gonococci at this time the patient is instructed to dring some beer; if this does not cause a return of the discharge in thirty-six to forty-eight hours, he can be considered well.

In all cases of simple anterior urethritis in which there are no complications, the patient is instructed to discontinue the use of alcoholic drinks for one month after his test drink, as they tend to aggravate a "post-gonorrheal catarrh." In a large percentage of cases when you have removed the cause (the gonococcus) all that is necessary is to keep the functions of the body active and the discharge will cease.

Astringents are to be emphatically condemned, as a discharge that persists in spite of careful dietetic and hygienic care is sure to contain cocci and suppression of the discharge only tends to lock the gonococci tighter within the urethral mucosa.

In a few exceptional cases, especially after a prolonged course of treatment, a catarrhal condition of Littré's glands which calls for astringent treatment may occur.

POSTERIOR URETHRITIS

Few patients with simple anterior urethritis, if seen early and treated in the above manner, acquire posterior involvement.

When the two-glass test shows an involvement of the posterior urethra, I proceed as follows (always having the patient empty his bladder before treatment): Depending on the severity of the symptoms, 0.25 to 0.75 per cent. nitrate of silver are passed into the posterior urethra, by means of the Guyon capillary syringe. If there is the slightest irritability and tenesmus, only the weakest solution is used; following this the anterior urethra is injected with hot 2 per cent. albargin, the same precaution being used not to let it pass posteriorly. The anterior treatment is continued daily with the same limitations as for acute anterior urethritis, but the posterior treatment is not resumed until the third day. Should the irritability and tenesmus increase in severity, all treatment, both anterior and posterior, are discontinued, and the patient is given a saline laxative, hot sitz baths and rectal suppositories containing the following:

R.	gm.	
Extracti belladonnæ		
Extracti opii, āā	0.25	gr. iv
Ichthyolis	or	
Iodoformi, āā	2.50	gr. xlv
Butyræ cocæ q. s.		

M. Fiant suppos. rect. No. X.
Sig.: Insert one every six hours.

On the third day, provided the acute posterior symptoms have all subsided, the prostate is gently massaged and 0.25 to 0.5 per cent. of nitrate of silver is given by the Guyon catheter, followed by the anterior treatment. No matter how slight the posterior infection may be, there is always a corresponding involvement of the prostate, and the posterior infection will not clear up unless the prostate receives its corresponding attention. In acute cases it is seldom necessary to use stronger solutions than 0.75 per cent. nitrate of silver posteriorly. When the urine clears in the second glass and the prostate shows no pus microscopically, a bougie is passed all the length of the urethra, but the 1 per cent. nitrate of silver is omitted in the posterior urethra. If this does not produce a recurrence, the beer test is applied. If the gonococci are still absent and the urine glasses clear, the patient can be considered well. In the event that the gonococci appear again, however, it is necessary to start as from the beginning.

In all cases of acute posterior urethritis it is advisable to put a good snug-fitting suspensory on the patient—not the ordinary suspensory that simply holds the scrotum together, but one that raises the testicles well up toward the pubes.

I have intentionally omitted all reference to the internal treatment and the management of complications, as space does not permit their discussion here.

For the management of acute infections of the epididymis, you are referred to the excellent works by Belfield, Hagner and others.

CONCLUSIONS

1. Specific urethritis is increasing in frequency.
2. More attention should be paid to its detailed diagnosis and treatment.
3. Methods of treatment should aim at the easiest and simplest way of combating the disease.
4. With this in view the spread of specific urethritis will be greatly lessened.

100 State Street.

A STUDY IN RENAL SENESCENCE*

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In a study of the kidneys four years ago I thought I noticed a fact which I had never heard mentioned, namely, that as age advanced there was a thickening of the interstitial tissue at the apex or papillary end of the pyramids and that this thickening was reasonably uniform. Further study on one hundred and fifty kidneys from individuals of all ages dying from many different diseases (though the majority died from tuberculosis of the lungs) added confirmation. I then showed a number of unselected specimens, the identification of which was withheld, to Dr. McFarland, who was so successful in determining the ages of the patients by the criterion mentioned that I have thought it worth while to prepare the following notes for publication.

* From the Laboratory of the Henry Phipps Institute; read before the Philadelphia Pathological Society, Feb. 24, 1910.

The condition is practically one for demonstration rather than for description, yet the specimens shown at the time of the reading of the paper might be described as follows: The specimen from the child one month old showed through a ⅔ lens the tubules at the apex of the pyramids practically in juxtaposition with so little interstitial tissue between them that it was practically invisible; in the 9-year old specimen there were one or two fine lines of interstitial tissue between the tubules; in the 27-year-old specimen three or four lines; in the 35-year-old specimen five or six; in the 69-year-old specimen eight to ten lines and in the 99-year-old specimen ten to twenty lines.

Moreover, the study revealed that this thickening of the interstitial tissue was not dependent on the accompanying pathologic condition of the kidney, but occurred apparently only as a result of age. All kinds of pathologic conditions were found in the one hundred and fifty kidneys studied, namely, cloudy swelling, acute parenchymatous nephritis, chronic parenchymatous nephritis, focal interstitial nephritis, the various kinds of general interstitial nephritis, amyloid degeneration, pyelonephritis, etc. It was found that pyelonephritis and hydronephrosis injured the pyramids and increased the interstitial tissue in them to such an extent as definitely to obscure the comparatively slight increase due to age; in these cases, therefore, the age could not be told from the appearance.

In addition it was found that a general or a marked focal interstitial condition which is commonly only studied and described from the appearances in the cortex affected also the pyramids and hence increased the interstitial condition at the apex of the pyramids so that the thickening at this point did not correspond exactly with the age. Comparison of many such kidneys, however, showed that it was not difficult to learn from the condition in the cortex how much of the thickening at the apex of the pyramids was to be attributed to the pathologic condition and how much to age. In other words though interstitial nephritis modifies the amount of interstitial thickening at the apex of the pyramids, this modification can be recognized and taken into account. In regard to the question which naturally arises as to how reliable is the differentiation of age from this thickening of the interstitial tissue, I would say that it is almost as reliable as the appearance of the face; though we can generally give a pretty good idea of the age of an individual by looking at him we are sometimes mistaken in middle life to the extent of ten or even fifteen years and in old age rarely even to the extent of twenty years.

In deciding the age of the individual from the thickening of the interstitial tissue at the apex of the pyramids the following precautions should be taken: First, the apex of the pyramid should be in view. Sometimes a cross-section of the kidney is made in such a way that we see a long stretch of pyramid but instead of one we are looking at two pyramids end to end; in other words, a specimen may be cut across two pyramids in such a way that the apical portion of one pyramid will run into the apical portion of the other so as to make the end of the specimen actually near the second cortex though the second cortex is not in view. Second, edema must be differentiated from thickening of the interstitial tissue. Third, the amount of interstitial tissue should be estimated, not from one single location, but from several fields of a ⅔ lens. Fourth, interstitial nephritis increases the amount of interstitial tissue at the apex of the pyramid and must be accounted for. Fifth, pyelonephritis and hydronephrosis obscure completely the thickening due to age.

SUMMARY

1. There is a gradual increase in the amount of interstitial tissue at the apex of the renal pyramids so uniform with advancing age that the age of the individual is evident from the amount of interstitial tissue found.

2. This relation of the amount of interstitial tissue to the age is lost in cases of pyelonephritis and hydronephrosis; and modified by interstitial nephritis, though this modification can be accounted for, so that the age remains evident.

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THE UNCINARIA AMERICANA IN GEORGIA

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Since the investigation of uncinariasis in the South by Dr. Stiles in 1902, a number of examinations have been made for this disease by the Georgia State Board of Health and individual investigators in Georgia. The information so obtained has established with fair degree of certainty the geographical distribution of uncinariasis in this state, but has furnished little positive knowledge of the extent to which the disease prevails. An investigation was begun in this laboratory a little more than a year ago which has led to approximately accurate conclusions on this and certain other phases of the hookworm question.

METHOD OF INVESTIGATION

For the purpose of this investigation the state was considered in two divisions, the northern and southern, the former representing that portion of the state lying north of and including the foothills, and the latter the remainder of the state. From these divisions counties eleven in all—were taken typical of different local areas. From the counties thus chosen groups were selected representative of that portion of the white population subject to hookworm, and then a complete microscopic examination was made of each whole group. The results so obtained are given in Table 1.

The groups referred to above are schools, the examination of which I was enabled to make through the kind cooperation of the principals in charge. In the northern division, Group 1 is a rural school in the mountainous section, and likewise Group 2 which, however, is situated farther west. Both are situated south of and adjoining the Blue Ridge. In these sections a heavy gravelly soil exists with occasional loamy and ferruginous areas. The winters, for this latitude, are rather severe. There is much rainfall during the summer seasons. Group 3 is a school situated in a small town in north central Georgia. Here is found in the main, a light sandy soil locally known as "gray land." Group 4 is a school in a town of about 4,000 inhabitants which has had for the past few years a partial system of sewerage and pavement. The town is situated in middle Georgia just north of the foothills. Group 5 is a rural school located in another section of middle Georgia. Here a light gravelly and sandy soil predominates. In the southern division, Group 1 is a rural school and Group 2 a school in a small town. Both are situated in counties adjoining the state of Florida. Group 3 is a school in a small town near the central part of the southern division. A sandy soil prevails in all three of these

localities and the rainfall during the summer seasons is less than that of the mountainous districts of the northern division for the same season. The sanitary conditions prevailing in the different sections of the state represented by these groups, except Group 3 in the northern division, are approximately the same. In the small towns some sort of a surface closet system exists, while the country schools visited were not found to have so much as this to their credit.

In Table 1 the groups already discussed are arranged in order, 1, 2, 3, etc., and each group is subdivided into two classes, A and B. Class A includes examination of persons from 6 to 16 years of age, and Class B of persons from 17 to 26 years of age. The signs + and — signify positive and negative results of examinations for eggs of the uncinaria.

PERCENTAGE OF POPULATION INFECTED

From the data in Table 1 may be calculated the approximate percentage of hookworm infection in this state. The white population of the northern division exclusive of that of Columbus, Macon, Augusta, Athens and Atlanta as estimated from the United States census report is as shown in Table 2 and the white population of the southern division exclusive of that of Savannah is given under Table 3.

SYMPTOMATOLOGY AND TREATMENT

For unavoidable reasons in many cases no record was kept of symptoms. From those which were recorded the following conclusions are drawn:

1. In a great many cases, particularly among the young, the symptoms heretofore ascribed to uncinariasis by competent investigators were very pronounced though they were little if at all in evidence in fully one-half of all cases examined.

2. Thymol is a positively effective anthelmintic if its administration is repeated often enough (in some cases it was found necessary to repeat the treatment as many as five times).

3. Patients almost always improve immediately after the worms have been expelled though a great many seem to be unable to recover fully from the effects of the disease.

RELATIVE INFECTION OF MALES AND FEMALES

In Table 1 the percentage infection of males and females is given, from which it appears that the two sexes are about equally subject to hookworm infection.

RELATION OF GROUND-ITCH TO THE DISEASE

This relation is brought out in Table 4, in which is given the calculation of those who have, and also of those who have not had ground-itch, but who were found infected with hookworm.

TABLE 1.—HOOKWORM INFECTION IN GROUPS INSPECTED

Group	Class A, Age 6-16 inclusive									Class B, Age 17-26 inclusive								
	Males			Females			M. and F.			Males			Females			M. and F.		
	+	—	%+	+	—	%+	+	—	%+	+	—	%+	+	—	%+	+	—	%+
NORTHERN DIVISION																		
1	5	5	50	6	13	32	11	18	38	0	2	0	0	1	0	0	3	0
2	11	12	48	11	25	31	22	37	37	2	11	15	3	12	20	5	23	18
3	5	1	85	4	2	67	9	3	75	15	28	35	11	38	22	26	66	28
4	19	53	26	5	0	—	24	53	31	1	4	20	0	0	0	1	4	20
5	5	4	55	0	0	0	5	4	55	4	6	40	2	0	—	6	6	50
Total	45	75	38	26	40	39	71	115	38	22	51	20	16	51	23	38	102	27
SOUTHERN DIVISION																		
1	8	0	—	4	0	—	12	0	—	24	18	57	8	9	47	32	27	54
2	14	8	64	22	11	67	36	19	65	7	2	78	2	0	—	9	2	82
3	7	4	63	11	5	64	18	9	67	4	0	—	9	2	50	6	2	75
Total	29	12	71	37	16	70	66	28	70	35	20	64	12	11	52	47	31	59

TABLE 2.—WHITE POPULATION OF NORTHERN GEORGIA, EXCLUSIVE OF CHIEF CITIES

Total	876,225
Class A, age 6-16 inclusive	311,264
Class B, age 17-26 inclusive	215,495

TABLE 3.—WHITE POPULATION OF SOUTHERN GEORGIA, EXCLUSIVE OF SAVANNAH

Total	223,268
Class A, age 6-16 inclusive	79,312
Class B, age 17-26 inclusive	54,909

From Table 1, 38 per cent. of Class A and 27 per cent. of Class B in the northern division, and 70 per cent. Class A with 59 per cent. of Class B in the southern division have uncinariasis. This gives a total for the state of 264,378; or exclusive of the six cities named above, approximately 24 per cent. of the total white population in Georgia have hookworm.

AGE PERIOD OF INFECTION

Infection was not found among children 5 years of age and under, and to no great extent among persons over 27 years of age, though it should be stated that a very small number of either of these classes was examined. The relative percentage of infection was found to increase with age up to about 16. It then remained almost constant to the age of 22. From this it decreased until at the age of 27 it became almost negligible.

TABLE 4.—GROUND-ITCH AND HOOKWORM INFECTION

Ground-itch.	Per Cent. Hookworm Infection.
Not since 1902	11
Between 1904 and 1906	62
Since 1906	82
Not at all	8

In this table three things are indicated: (1) that the uncinaria can live longer than eight years, the longest period found being twelve years; (2) that Nature may eliminate the worms from the intestines in less than eight years, the shortest time found being a little more than two years; (3) that ground-itch, though the chief, is not the only mode of infection. In all three of these deductions it is assumed, of course, that the cases reported were true cases of ground-itch and represent hookworm infections, which may or may not be true, for there are certain cases of ground-itch, so-called, caused otherwise than by larvæ of hookworms. In the words of Dr. Stiles, "probably the term 'ground-itch' covers a multitude of sins."

It may be mentioned also that eggs of *Tænia nana* were found in 3 per cent. of all specimens examined.

SUMMARY

1. Uncinariasis is confined mainly to persons between 5 and 27 years of age.

2. The greatest infection occurs between the age of 6 and 16 inclusive.

3. Symptomatic diagnosis is unsatisfactory; thymol is an effective vermifuge in the treatment of hookworm; in some cases full recovery from the effects of the disease seems to be unattainable.

4. Males and females are infected approximately to the same extent.

5. Exclusive of the large towns, about 24 per cent. of the total white population in Georgia have uncinariasis.

6. Ground-itch is the chief but not the only mode of infection.

7. The uncinaria may live in the intestines from two to twelve years.

RECURRENT FURUNCULOSIS IN AN INFANT SHOWING AN UNUSUAL BLOOD PICTURE

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Having failed to find any similar case reported in the literature, I believe that the following will probably be of interest.

The case occurred in my private practice and the child first came under my care in September, 1908, and at that time the following history was obtained.

Mother's History.—The family history was excellent, there being no discoverable hereditary taint. The mother, an unusually robust woman in her thirties, with that nervous energy which so often accompanies an active mentality, toward the end of the eighth month of this her second pregnancy, suddenly developed eclampsia, having, according to her accoucheur, previously presented no untoward urinary findings. The labor was hastened by an instrumental delivery, and the mother was delivered of a well-developed though premature boy baby, weighing about six pounds.

Baby's History.—As the mother could not nurse the infant owing to deficient milk supply, the accoucheur secured a wet-nurse. As the nurse's milk did not agree with the child, after trying fresh milk formulas he was placed on a condensed milk modification. On this, I am told, he improved somewhat, but the food did not prove altogether satisfactory and the infant was placed on the first formula of the "Materna,"[1] which constituted his food until I saw him for the first time at three and a half months of age. At this time his weight was eight pounds. The following information was also elicited. When about eight weeks old, the baby had an attack of suppression of urine which was relieved by hot packs over the kidneys, and on Sept. 7, 1908, one month later, I am told, passed no urine for a period of thirty-six hours. The first few drops of urine passed after this contained blood. One week later, the infant had a similar attack. I could not secure any further accurate information in regard to the urinary findings.

Examination.—I saw the baby for the first time Sept. 20, 1908, when he was three and a half months old, and for the previous twenty-four hours had been fretful and restless with a temperature of 102 F. He had had a number of greenish lumpy and watery stools. I made the following physical examination: A poorly developed baby, weighing eight pounds, slightly marasmatic look, poor color, bony and other tissues soft. He does not notice even loud noises. The pupils react to light rather slowly. The baby does not follow even a strong light with his eyes. His sense of taste is normal. There is a slight tendency to snuffles. There is no skin eruption, and no glandular enlargement. The lungs are normal. The heart presents a roughening of the first sound over the pulmonary interspace, but there is no weakening of the second pulmonary sound. There is no dilatation of the right ventricle, and no evidences of cyanosis or of venous stasis. Abdomen is slightly distended, but there is no rigidity. The liver and spleen are impalpable. The superficial and other reflexes are rather sluggish.

Treatment.—The infant, after recovering from this enteric attack, was placed on gradually increasing and appropriate milk dilutions, so that two weeks later he had gained one and a quarter pounds, and showed corresponding improvement in his general condition. One week later, Oct. 19, 1908, a few pustules appeared on the neck and the chin, which were carefully expressed and dressed. The milk formula was gradually increased to fat 2.23 per cent., proteid 1.12 per cent., sugar 6 per cent. He was getting 7 feedings in 24 hours with 4½ ounces at each feeding. The amount at each feeding, the strength of the food, and the number of feedings were changed from time to time to meet the needs of the child, and on Dec. 14, 1908, his weight was 11 pounds 3½ ounces, a net gain in 2½ months of 3 pounds 3½ ounces.

Course of Disease.—On December 19 of the same year, the baby had another attack of furunculosis and on December 21, thinking that he might do better with a wet-nurse, I secured one who had been carefully watched in one of the maternity hospitals of this city, and after a careful personal examination of herself and her six weeks old baby, put him to the breast, with remarkably satisfactory results. With the exception of one or two slight colds in the head, barring the periods of fever and furunculosis, the baby did splendidly, so that between Dec. 22, 1908, and Feb. 22, 1909, he had gained 5 pounds 11 ounces (weight 16 pounds 7 ounces). On June 15, 1909, his first birthday, the baby's weight was 20 pounds 7 ounces, his height

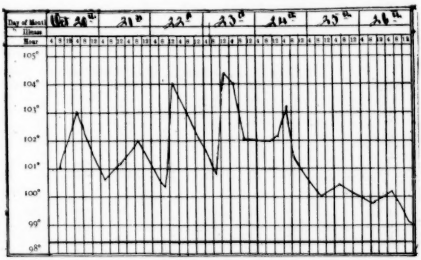

Chart 1.—Temperature curve during October, 1909, attack.

28¾ inches, circumference of head 18¾ inches, chest 18½ inches. He had 8 teeth, and his bony and other tissues were normal. His vision and hearing were normal.

Description of Furunculosis Attacks.—During the period from the onset of the attacks of furunculosis, in October, 1908, the baby had persistent recurring attacks of furuncles accompanied with a rise of temperature, reaching from 102 to 104.6 F. This fever was usually of the irregularly remittent type, and lasted from 3 to 10 days; at one time the fever persisted for over three weeks (Charts 1 and 2). The fever reached its fastigium usually just prior to the ripening of the furuncles, which varied from 2 to 5 in number, and which were accompanied with considerable inflammatory infiltration of the surrounding tissues. Occasionally also an aphthous patch developed on the buccal mucous membrane, and this resulted in considerable necrosis. There was no tenderness of the legs, no abnormal changes at the epiphyses or of the periosteum. There was no sponginess of the gums, in fact, nothing to indicate scorbutus. Instructions were given to start the administration of orange juice after taking the child from the wet nurse, and this and the addition of barley and other cereal gruels to the fresh cow's milk were faithfully carried out. On only two or three occasions was there any marked gastrointestinal disturbance, and at no time was there any evidence of an ulcerative colitis. There was never any vomiting and rarely a diarrhea, the food in reduced quantity as a rule being well digested. During several of the attacks the baby suffered from marked prostration, presumably from sepsis, and the most careful stimulation was required.

1. The Materna is a glass graduate used in the home modification of milk for determining approximate percentages.

Blood Examination.—Repeated examinations of the blood failed to show the plasmodium of malaria, and the condition seemed to be uninfluenced by the administration of quinin bisulphate given in solution. There was at no time a marked anemia, the hemoglobin never being below 55 per cent., and the red blood corpuscles were always up to the minimum normal for that age. There was at no time a distinct leucocytosis, in fact the opposite condition, a leucopenia, was the rule. The unusual feature of the blood picture is the relative leucocyte count which on several examinations over a variable period of time remained very constant, showing an extreme relative lymphocytosis. The following relative leucocyte counts will serve as examples:

Oct. 25, 1909. Differential Count: Small lymphocytes, 65.8 per cent.; large lymphocytes, 32.2 per cent.; polynuclear neutrophils, 1.0 per cent.; eosinophils, 0.8 per cent.; basophils, 0.2 per cent.

Dec. 6, 1909. Differential Count: Small lymphocytes, 61.8 per cent.; large lymphocytes, 34 per cent.; polynuclear neutrophils, 1.0 per cent.; eosinophils, 2.8 per cent.; basophils, 0.4 per cent.

Jan. 12, 1910, the complete blood examination was as follows: Number of red blood corpuscles in 1 cm., 4,800,000; number of leucocytes in 1 cm., 3,000. Differential count: Small lymphocytes, 69.2 per cent.; large lymphocytes, 25.2 per cent.; polymorphonuclear neutrophils, 1.0 per cent.; eosinophils, 3.8 per cent.; basophils, 0.8 per cent. The amount of hemoglobin was 70 per cent. Color index was 0.73. The plasmodium of malaria could not be found on careful search. The red corpuscles were uniform, but somewhat small in size.

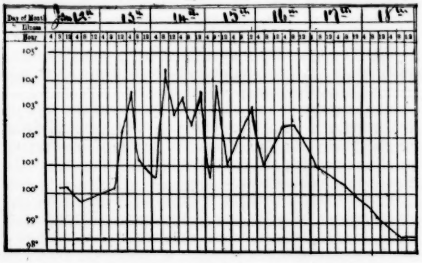

Chart 2.—Temperature curve during January, 1910, attack.

Urine.—The urinary findings on several occasions showed a heavy uric-acid deposit, and during the height of the fever on one or two occasions a faint trace of albumin was detected, but no other abnormal urinary conditions were found.

Micro-organisms.—Cultures from the pustules showed pure *Staphylococcus pyogenes aureus.*

Present Condition.—On Jan. 27, 1910, when the baby was 19½ months old, the following physical examination was made: A well-nourished, active though slightly pale-looking child, very responsive and easily interested, though somewhat nervous. He walks unaided, standing and sitting erect. His head measures 19 inches, chest 18⅞ inches, abdomen 18¼ inches, and length 30 inches. His weight is 22 pounds, 7 ounces. His legs are straight. The anterior fontanelle is closed. The condition of all the bones is normal. He has 15 teeth, perfectly formed. His back is straight, and muscles are firm. The heart, lungs and abdomen are normal. There is no enlargement of the spleen or of the lymphatic glands, and no evidence of enlargement of thymus. Sensation, throat, eyes and ears normal.

Here, then, is the case of a baby who was born prematurely, who suffered from a marasmatic condition during the first few months of his existence, but who at one year of age and thereafter showed but slight if any departure from the normal in physical and mental development, but who was subject to repeated attacks of furunculosis, with accompanying fever and prostration all out of proportion to the clinical findings, and who also presented the unusual blood picture of an extreme lymphocytosis without other marked blood changes.

It is extremely difficult to account for this great proportion of lymphocytes. Lymphatic leukemia would be thought of, but the absence of a leukocytosis, and the absence of enlargement of the lymphatic glands and of the spleen, with the other clinical findings, would exclude this diagnosis. The periodicity of the fever coming on every few weeks would naturally suggest malaria, but repeated and most painstaking examinations of the blood by myself and several well-known clinical pathologists failed to find the plasmodia, and as has been stated there was no splenic enlargement.

The infant was never markedly anemic; there were no evidences of the "constitutio lymphatica"; at no time were there any symptoms of rachitis or scorbutus; and from the nature of its recurrency the infectious diseases may be excluded. There was nothing either in the history or the clinical findings to suggest specific disease. An enlarged thymus could not be detected.

In all probability, the fever is to be accounted for by the toxemia generated by the *Staphylococcus pyogenes aureus* during the attacks of furunculosis, but this does not satisfactorily account for the peculiar blood findings.

As every attention had been given to the feeding, the general hygiene of the infant, and the local treatment of the suppurative areas, without giving permanent relief from the recurrency of the attacks, an autogenous vaccine is being prepared at the bacteriologic laboratories of the College of Physicians and Surgeons, and careful injections of the vaccine will be made at intervals with the hope of establishing a partial or complete immunity to the staphylococci.

Since submitting this article for publication, during a period of two months, the little patient has had no return of the attacks, and his general health is excellent. The immunizing process was kept up over a period of six weeks, an injection of the vaccine being given at intervals of from five to ten days, in gradually ascending dosage. During this time he has shown no disagreeable symptoms, the vicious cycle of the attacks has been broken, and an immunity has been established. How long this immunity will last time alone will prove.

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Therapeutic Disregard of the Laws of Gravity.—R. Blondel in an article recently reviewed in the *Gazette Médicale Belge*, March 17, mentions among other ways in which the attraction of gravitation is disregarded in medical measures, that patients generally put on an elastic stocking like an ordinary stocking, after they have left the bed and the blood has had a chance to settle in the limb. How few physicians, he remarks, think of advising the patient to put on the stocking before arising, and not until after the limb has been held vertically for a time to allow the blood to leave it, the expulsion of the blood being promoted by gentle kneading downward and the stocking being drawn on by another's hands if possible. Abdominal bands should also, he says, be applied while the patient reclines, the individual merely lifting the pelvis from the plane of the bed to permit the band to be passed beneath the body. If corsets were put on also in this way, much would be gained. He also warns that after operations the pelvis should not be lowered too abruptly from the Trendelenburg position.

ANIMAL EXPERIMENTATION IN RELATION TO PRACTICAL MEDICAL KNOWLEDGE OF THE CIRCULATION*

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III. CIRCULATORY SYMPTOM-COMPLEXES AND THEIR TREATMENT

(*Concluded from page 1774*)

An attempt was made in Part II to make it clear that, whereas the attention of the ancients was attracted to certain symptoms, such as palpitation and syncope, owing to their lack of knowledge of the structure and functions of the heart and blood-vessels, such symptoms were not associated with specific diseases of the circulatory system.

CLINICAL CONCEPTS AND ANIMAL EXPERIMENTATION

It has been shown, furthermore, how, in the seventeenth and eighteenth centuries, when post-mortem observations made possible the building of a firm foundation for anatomy and after Harvey's demonstration of the circulation of the blood, the clinical concepts as we now know them began to appear. This fact in itself sufficed to indicate in a general way the dependence of our modern conceptions on the results of experiment. It might, however, be well to call attention to this dependence in somewhat greater detail.

Why valvular defects, both organic and relative, should alter the action of the circulation, and how, becomes perfectly evident when they are viewed in the light of facts demonstrated by experiment. If the lesion causes a stenosis or insufficiency of any valvular orifice, the knowledge of this fact suffices to account for practically all of the signs and symptoms of the disturbed function. Given, for example, narrowing of the mitral orifice, with a knowledge of the physiology of the circulation, the clinical picture is almost completely understood. The relation of the adventitious to the normal heart-sounds, the enlargement of the left auricle, the engorgement of the pulmonary circulation and its consequences, the hypertrophy of the right auricle and ventricle, the pulsation of the liver and of the veins of the neck, as well as other signs and symptoms, become perfectly clear and are seen to be part and parcel of one and the same thing.

The conception of relative or muscular insufficiency of the valvular orifices rests almost entirely on inferences from results of animal experiments. As long as the Hippocratic idea of the parenchymatous nature of the walls of the heart held sway, the possibility of a variability of the diameters of the cardiac orifices was entirely precluded. When, however, Harvey, Borelli and others[1] recognized that the movements of the heart resembled those of muscles, and after the property of tone in heart muscle had been discovered by Gaskell[2] the way was opened for the clinical conception of valvular insufficiency due to muscular weakness.

The hypertrophied heart, the *cor bovinum*, as a purely anatomic conception, was one of the earliest cardiac lesions to be described. Suggestions as to its causation were not, however, made until it was recognized that the heart, not the blood, did mechanical work and that the amount of work performed by the heart was subject to variation. Practically the only cause of hypertrophy of voluntary muscle is increased work; then why not of heart muscle, too? When, therefore, a hypertrophied heart is met, the physician, in order to discover the cause, looks for the factor that has increased the work of the heart. Physics teaches that work is proportional to the product of the pressure and the surface. "It is, therefore, not a matter of chance that the first to measure the blood-pressure in animals (Hales) was also the first to attempt the estimation of the work of the heart."[3] Since the surface area of the heart and the pressure against which it contracts both are subject to variation, it is to these factors that the clinician looks in order to account for hypertrophies of the heart. In this way many of the etiologic factors of cardiac hypertrophy have been brought to light. It has served to explain the hypertrophies associated with valvular lesions. It has likewise served to explain the cardiac hypertrophy of pulmonary emphysema, of arteriosclerosis, of chronic asphyxia (Hensen[4]), in which condition the blood-pressure is elevated, of many cases of nephritis in all of which the arterial blood-pressure is high, of plethora (which probably increases the work of the heart, not by increasing the blood-pressure, but rather by increasing the amount of blood in, and consequently the area of, the heart (Tigerstedt[5]), and of adhesive pericarditis.

The fact that the dilated heart has great difficulty in maintaining the circulation is likewise seen clearly when viewed from the standpoint of mechanical work.

The concept of the weak heart rests on the fact that the heart acts as a force-pump. The signs of failure of the pump, the fall of arterial pressure, engorgement of the veins, etc., are explained by the discovery of Harvey and its elaborations.

Paroxysmal tachycardia is probably merely a symptom of a number of affections of the heart. Through modern clinical methods, which are largely the outcome of work on animals, the behavior of the heart during the paroxysms has been discerned and at least one cause of the symptoms has been determined, namely, pressure on the vagi (see below.)[6]

The investigation of bradycardia has met with better success. There can be recognized by the application to the human being of methods employed in the laboratory: (1) complete bradycardia, that is, slowing of the whole heart and (2) partial bradycardia, by which is understood the slowing of certain parts of the heart below the mouths of the great veins. Clinical experience, in the light of facts accumulated in the laboratory, has led to the recognition of at least two causes of complete bradycardia, namely (a) direct or reflex stimulation of the cardio-inhibitory mechanisms by asphyxia, by arterial hypertension as in acute nephritis,[7] by increased intracranial tension,[8] by irritation of the gastro-intestinal canal and peritoneum;[9] and (b) slowing of the rate of discharge of the mechanism that sets the pace of the heart (Stannius, Gaskell)[10] through the depressing action of poisons or arteriosclerosis. Clinically these two

* This paper is one of the series prepared for and reprinted by the Council on Defense of Medical Research of the American Medical Association for circulation among the public. Fourteen of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, the circulation of the blood, protozoan tropical diseases, etc.

1. See Part II of this article.
2. Gaskell: Jour. Physiol., 1880-82, iii, 53
3. Nagel: Handbuch der Physiologie, i, 866.
4. Quoted by Krehl, Pathologische Physiologie, 1907, p. 32.
5. Tigerstedt: Skand. Arch. f. Physiol., iv, 41.
6. Hoover: In Osler's Modern Medicine.
7. Based on Marey's law, which in turn is based on animal experiments. See La circulation du sang, Paris, 1881, p. 321.
8. Cushing: Am. Jour. Med. Sc., 1903, 1017.
9. Based on experiments by Goltz: Virchows Arch. f. path. Anat., 1863, xxvi, 10.
10. Gaskell: Experiments described in Phil. Tr., London, 1882, p 993.

types may be distinguished in man (Dehio) by means of a laboratory test which depends on the fact that atropin paralyzes the vagus terminals in the heart.

Animal experiments (Stannius, Gaskell,[11] and others) have brought to light, and have determined the causes of, the type of bradycardia termed incomplete; and the applicability of this work to the condition (Stokes-Adams disease, etc.) as seen in man has been demonstrate by animal experimenters (Chauveau, His, Erlanger,[12] etc.) employing in the clinic the methods of the laboratory. These, by showing that the most common form of incomplete bradycardia is atrioventricular heart-block, have very recently served to elucidate a clinical picture that has puzzled the medical world ever since it was first described some seventy years ago.

It is almost too early to predict the outcome of the efforts now being made toward a better understanding of the cardiac arrhythmias. That they have opened a new era in the detection and analysis of cardiac disease is perhaps all that can now be affirmed. However that may be, the result up to date has been that through the clinical application by Wenckebach,[13] MacKenzie,[14] Hering and others, of facts revealed in the laboratory by Marey, Gaskell, Engelmann, Hering and others, heart irregularities such as extrasystoles, allorrhythmia, the absolutely irregular pulse, etc., which heretofore have had no significance whatever, now stand for specific disturbances of the cardiac motor mechanism.

Reference has already been made to the part animal experimentation and experimenters have played in calling the attention of clinicians to the mechanism that comes into play when, as in arteriosclerosis, the arteries become inelastic.[15]

Arterial aneurism was recognized in man by the animal experimenter, Galen, and attempts at treatment were made by him. Just what part animal experimentation played in the development of this phase of the subject cannot be determined. However that may be, many signs and symptoms of great significance in the diagnosis of aneurism have since come to the clinician through, or have been rendered clear by, experiments on animals or animal experimenters. Harvey, for example, first called attention to the changes of the pulse. Pressure changes in the arteries have also been detected and for their recognition Williamson finds that "the sphygmomanometer is much more sensitive than the finger."[16] The pupillary effects of aortic aneurism are explained by experiments on the cervical sympathetic, some of which were performed as early as 1727,[17] and by local changes in blood-pressure.[18]

The localization of arterial and of most venous emboli from dislodged thrombi is explained perfectly by the circulation. And experimentation has served to throw light on many of the problems connected with the subject of thrombosis. These experiments have demonstrated that slowing of the blood-system *per se* does not cause clotting, although it has been shown by deduction from experiments on animals when the necessary factors are present, decreased velocity plays an important part in thrombosis.[19]

11. Gaskell: Jour. Physiol., 1883, iv, 61.
12. For the literature see Jour. Exper. Med., 1906, viii, 8.
13. Wenckebach: Die Arrhythmia als Ausdruck bestimmter Functions-Störungen des Herzens, Leipsic, 1903.
14. MacKenzie: Brit. Med. Jour., March and April, 1905.
15. See Part II of this article.
16. Quoted by Osler: Modern Medicine.
17. Petit (1727) and Biffi (1846): Quoted by Schäfer, Text-Book of Physiology, ii, 618.
18. Experiments of Wall and Walker; Quoted by Osler: Modern Medicine.
19. Baumgarten and Rizor, and von Recklinghausen; Quoted by Blumer: Osler's Modern Medicine, p. 505.

ANIMAL EXPERIMENTATION AND THE TREATMENT OF CARDIOVASCULAR DISEASE

To animal experimentation must also be attributed many of the most valuable suggestions as to the treatment of cardiovascular disease. It will, however, be possible to call attention to only a few instances of this most practical phase of the subject.

It is self-evident that with the discovery of the circulation, and only after the elucidation of the part played by the several mechanisms concerned in its maintenance, the rational treatment of the diseases of the circulation by mechanical means became possible.

Then it became possible to appreciate why patients suffering from "delinquium animi or swooning" should be placed in the recumbent position rather than "in an easy erect posture" as suggested by Paul of Ægina and why other practices, some of which are mentioned in Part II, were to be eliminated as irrational.

Bleeding, than which no form of treatment has passed through as many vicissitudes, illustrates how fruitless may be the results of uncontrolled speculation in medicine, the vacillation "in the practice of this therapeutic measure depending intimately on the prevailing views on blood and juices, on fever and inflammation, finally on life itself."[20] To-day venesection in diseases of the circulation seems to be indicated in but a single condition which may, however, appear in almost any of the symptom-complexes: "At any stage in a valvular lesion or in hypertrophy and dilatation of the heart . . . acute cardiac insufficiency may arise . . It is the one condition in which a venesection is advantageous."[21] Bleeding, then, is indicated only when it is necessary temporarily to relieve the weakened or dilated heart of the strain under which it is working. The mechanical indication and the mechanical action of bleeding both have been made clear through the discovery of the circulation and the part the heart plays in its maintenance. We no longer hear of bleeding practiced for its "derivatory" and "revulsive" actions.

More is heard to-day of a treatment which is just the converse of venesection, although it is practiced in many conditions to accomplish the very objects that were sought in blood-letting. The use of transfusion as a therapeutic measure was suggested in mythical times as a means of restoring youth. "An experiment which had hitherto only been made in animals,[22] transfusion was first put into practice by Cardanus in the fifteenth century. The attempt did not succeed, however, because, when artery was united to artery, the direction of flow was beyond the control of the surgeon. With the discovery of the circulation, the mechanical requirements of transfusion became clear.[23] Within less than forty years Lower succeeded in transfusing animals by passing the blood from an artery into a vein. And one year later Denis and King, working independently, successfully transfused blood from a lamb into man. The time was not, however, ripe for the practice of transfusion as a therapeutic measure. Unforeseen difficulties arose such as intravascular clotting, clotting at the point of union, and hemolysis. One by one, however, and almost exclusively through animal experimentation, these difficulties were cleared up and then eliminated. The successful efforts to remove what now appears to be the last great difficulty, namely, clotting at the point of union, are fresh in the minds of all. Through the

20. Bauer: Geschichte der Aderlässe, München., 1870.
21. Osler and Gibson: Osler's Modern Medicine, p. 261.
22. Crile: Hemorrhage and Transfusion, 1909.
23. I here follow the account given in Neuburger and Pagel: Handbuch der Geschichte der Medizin, iii, 87.

use of a method brought to light by animal experiments (Queirolo, Crile),[22] of uniting blood-vessels with a tube in such a way that the blood does not come into contact with any foreign surface, or through the use of vessel suture as developed by the experiments of Carrel,[22] clotting is no longer to be feared.

Transfusion of blood is used at the present time, however, only as a means of last resort. In most cases the infusion of a salt-solution into the blood vessels accomplishes the same end. The use of this therapeutic measure was suggested by Goltz when he called attention to the fact that the danger of sudden large hemorrhages depends on the emptiness of the heart, which, in that state, cannot do its work efficiently.[24] Then, after experiments on animals by Cohnheim (1869) and by Kronecker and Lauder (1879) had demonstrated that the injection of an aqueous solution of sodium chlorid may save the life of an animal which has certainly sustained an otherwise fatal hemorrhage, the measure was tried in surgical and obstetrical practice with the life-saving results that are familiar to all.[25]

Attention should here be called to the fact that transfusion and infusion experiments represent the first attempts at intravascular medication, a measure that was thereafter extensively employed in the laboratory but which has only recently come into vogue in the practice of medicine.[26]

Under the caption of mechanical methods of treating cardiovascular disease may also be included resuscitation by means of massage of the heart of subjects in whom the heart has stopped. In the ultimate analysis this method of treatment rests on the fact that the heart acts as a force-pump and that the pumping action of the heart muscle can be replaced for a time by that of the hand of the operator. More specifically, however, direct massage of the heart was first practiced by Schiff, who by this method succeeded in reviving dogs that had been killed with chloroform (1874). The measure was tried in the clinic six years later.[27]

The drug treatment of diseases of the circulation has been incalculably furthered by means of experiments on animals, while many of our most useful drugs have been discovered in experiments which were based on a knowledge of the physiology of the circulation.

The medicinal properties of digitalis, the most valuable of heart remedies, were known to the laity and the drug was used by the medical profession long before it was investigated in the laboratory. "The celebrated work of Withering on digitalis, published in 1785, shows," however, "that many deaths were undoubtedly due to the use of digitalis. Indeed, at that time and for half a century thereafter the action of digitalis on the heart and blood vessels was very imperfectly understood."[28] Traube's experiments and clinical observations on the action of digitalis did much to increase its use in disease.[29] Without going into this subject in any greater detail, the dependence of the physician on practical facts brought to light by means of animal experimentation may be shown merely by giving, in the words of one of the greatest of living clinicians, the main contraindications to the use of digitalis: "It may be said broadly to be contraindicated in all forms of heart disease without symptoms of muscle weakness" and "in states of high arterial tension . . . "[30] The physiologic basis of these physiologic contraindications is so clear as to require no comment whatever.

In the choice of a heart remedy the physician has likewise to be guided by animal experiments. Both digitalis and strophanthin, for example, "act on the heart and on the blood-vessels, but in different degrees, and these differences alone determine whether one or the other shall be used in a given condition. Such differences cannot be determined except by means of animal experiments.[28]

The use of atropin in cases of overaction of the vagus mechanism is likewise based entirely on experiments on animals.

All of the drugs used as vasodilators, such as nitroglycerin and amyl nitrite, have been discovered by animal experiments and the indications for their use in cardiovascular disease would be meaningless in the absence of facts brought to light through animal experimentation.[28] Thus, the nitrites were introduced into therapeutics by the animal experimenter, Brunton, "who advised their use in angina pectoris to relieve spasm of the arteries." "Besides, in angina pectoris the nitrites may be used in any condition in which it is supposed the arterial tension may be lowered with benefit to the economy," as in certain cases of hypertension, or in combination with digitalis when, in cases of failing heart, the vasoconstrictor action of the latter might embarrass the already overtaxed heart.[31]

The vasoconstrictor adrenalin, one of the most valuable of recently discovered drugs, was brought to light through animal experimentation.[32] Indeed this statement is true of other drugs, too numerous to be mentioned here.

Animal experimentation on the circulation has also proved of value in the standardization of cardiovascular remedies. It is by that method alone that the physiologic activity of digitalis and strophanthus preparations, for example, can be determined, it is by that method alone that the physician can be supplied with digitalis and strophanthus preparations which will be of uniform strength and on which he can positively rely.[33]

The treatment of surgical diseases of the heart has been incalculably furthered—indeed this phase of medicine practically has been opened—by the experimental development of methods of opening the thorax under a negative[34] or a positive[35] pressure. Nor should we lose sight of the fact that both of these methods have as their foundation the animal experiments of Lower and of Haller, which were the means of laying down the first principles of the mechanics of respiration.[36]

THE WIDE INFLUENCE OF THE DISCOVERY OF THE CIRCULATION

Physicians should be reminded of the fact that the discovery of the circulation has benefited not only the specialist in diseases of the circulation; it has made itself felt in practically every branch of physiology and through these branches in practically every branch of medicine. To give but a single case in point: The knowledge of the circulation as acquired through animal experimentation led physiologists to study function in

24. Quoted by Neuburger and Pagel: Handbuch der Geschichte der Medizin, iii, 92.
25. Von Ott: Virchows Arch. f. path. Anat., p. 114.
26. Liebreich: Therap. Monatsh., 1901, xv, 551.
27. Metcalf: Boston Med. and Surg. Jour., 1909, clxi, 9.
28. Hatcher: Pub. Med. Soc. State of New York, 1909.
29. Ziemssen: Handbuch der speciellen Pathologie, etc., 1879, vi.
30. Osler and Gibson: Modern Medicine, p. 261.
31. Cushny: Text-Book of Pharmacology and Therapeutics, 1906.
32. Oliver and Schaefer: Jour. Physiol., 1895, xviii, 230.
33. Edmunds, Charles Wallis: The Standardization of Cardiac Remedies, THE JOURNAL A. M. A., May 25, 1907, xlviii, 1744.
34. München. med. Wchnschr., 1906, liii, 1.
35. Deutsch. med. Wchnschr., 1906, p. 534.
36. Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 341 and 351.

isolated organs kept alive by means of an artificial circulation. Using this method von Schröder, for example, determined the role of the kidneys in the process of urea formation and elimination.[37] These experiments, by placing the treatment of diseases of the kidney on a rational basis, have been of incalculable value to the clinician.

THE LYMPHATIC SYSTEM

The lymphatic system, as tributary to the circulatory system, should perhaps receive a word of notice here. Briefly, then, it may be said that in this connection the physician owes everything to animal experimentation, since the lymphatics were discovered by Aselli (1622) in an experiment on a living animal.[38]

And, it may furthermore be added, one of the chief practical uses to which the lymphatics are put by the physician, namely, the hypodermic administration of drugs, suggested itself to Wood in 1855 through contemplation of an animal experiment performed by Müller.[39]

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CAN STAMMERING BE TREATED SUCCESSFULLY THROUGH THE AGENCY OF THE PUBLIC SCHOOL?

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The official recognition by a department of a large American municipality of stammering as a public problem, is fraught with too great possibilities to go unheeded. Constituting as it does an initiatory effort in the United States, it is more than likely, if correctly taken and successful in its results, to awaken a country-wide movement of untold advantage to an unfortunate class of sufferers. The schools very naturally have been first to realize this problem, as they have before been the first to realize other problems concerning abnormalities in children. The educator not only comes into contact with the stammering child, but his professional attitude demands recognition of his disorder; for hindrances to developmental progress of whatsoever character are, from his point of view, to be removed, and the child graduated into the mature world unburdened with recoverable abnormalities. But since stammering children have always been in the schools, it is to the great credit of the Chicago educators that they have sought to give concrete, remediable form to this important situation.

A COMMUNITY PROBLEM

And yet the problem should, I think, be considered a community rather than a school problem. The demands for the treatment of stammering are peculiar in themselves, and do not readily fit into the ordinary school régime. The problem should be considered a school problem only in so far as the schools can be shown to be best adapted for its handling. In other words, the responsibilty of the public must not be considered to end with the capability or incapability of the schools in the matter, but calls for the creation of whatever machinery may be necessary for the treatment of the disorder. Since, however, the machinery of the schools is everywhere in operation, and since the stammering children should in the natural course of their lives be in the schools, it is desirable to utilize them, if possible, for this additional service.

The successful treatment of stammering is a specific problem involving certain requirements regardless of where or under what circumstances the stammerer is treated. He is not a normal individual, and his abnormality partakes of a multitude of variations. The instrument which is to remold the delicate mental and physical activities of a stammering child, suffering from a disorder often so intrinsically a part of the child's mental life, and one so elusive and fitful as is stammering, must be carefully considered and delicately adjusted. And this is all the more important because of the danger, not merely of doing no good, but actually, by ill-considered methods, of doing positive harm. The problem is, therefore, to be taken seriously.

The disorder is one of child development. The still young and growing boy or girl, usually between four and eight years of age, already having acquired the beginnings of speech in a normal manner, starts mysteriously a slight occasional hesitation in his utterance, and then step by step the disorder becomes fully developed. The links which connect the heretofore normally speaking child with these first significant hesitations in speech constitute the key to the understanding of the disorder. Any community effort at treating stammering which does not lay stress on this beginning period would fail in its greatest opportunity. This aspect of the problem will be spoken of again.

Each case requires study to determine whether physical abnormalities capable of interfering with successful training exist. Here enter questions of general health and of abnormalities of the peripheral speech mechanism, whether in nose, throat or chest. Each case demands also consideration of the nervous and mental mechanisms, as well as of environmental conditions, for they also may have a most important bearing on recovery. These are all medical, psychologic and sociologic problems, necessarily to be handled by the physician and psychologist.

CLASSES OF STAMMERERS

Before discussing the requirements for success in the actual work of training stammerers let us realize that varying grades of severity of the disorder, varying degrees of firmness of its fixation in the mental life of the individual and varying degrees of susceptibility to training, exist. A certain minority are destined without skilled aid to acquire relatively smooth speech while still in childhood or in early youth; another proportion are capable of self-recovery early in adult life. Having eliminated these cases one is confronted with the great majority of stammerers, those who are destined, if untreated, to undergo a nearly or quite complete life-struggle with the disorder. For certain reasons the children who are capable in the long run of self-recovery should themselves be carefully treated, first, because training alone can select with certainty those that are really more easily recoverable; and, second, because the baneful hindrance to normal child development produced by stammering demands to be removed at the earliest possible moment. The permanent eradication of stammering even in the easier cases is hard enough. And any system of treatment of the whole number of stammerers should be based on the needs of the great majority of more severe cases, for the lighter

37. Von Schröder: Arch. f. exper. Path. u. Pharmakol., 1882, xv, 364; and 1885, xix, 373.
38. Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 326.
39. Wood: A New Method of Introducing Medicines into the System, Month. Jour. Med., 1855, xx, 183.

ones will fall readily into such a system; whereas if plans are formed from the standpoint of the lighter cases even these may not be adequately reached, while the great mass of the stammerers will not merely be not benefited, but more probably will actually be harmed.

QUALIFICATIONS OF TEACHERS

As to the demands of training itself, the direct work of guiding the stammerer out of his spasm-wracked utterance into a smooth speech—so far from being easy, is in the majority of cases extremely difficult. Consequently the teacher for this duty must be more carefully selected than for the ordinary work of teaching. She must be thoroughly capable, must be carefully trained, unusually enthusiastic, and possess unlimited patience. And the oversight of her work by those capable of understanding all its difficulties must be more frequent and painstaking than that for ordinary teaching. Few teachers would for long keep up their enthusiasm in work which makes such exactions, or be able to meet the inevitable difficulties, unless steadied, encouraged and assisted by one having a broader knowledge and deeper insight than most of them can hope to attain in this work. And the need of care in the selection of teachers is doubly emphasized when one approaches the practical and varied psychologic insight involved in the inculcation of self-confidence, of courage, of persistence, and the firmness in self-control on which success very largely depends.

MANAGEMENT

But all of these necessities having to do with the training of the stammerer are attainable in the public schools. There still remains a difficulty, however, not so easy to satisfy. Educated self-control, persistent, firm, habit-creating, is the key-note to success in the treatment of stammering. Bearing in mind that but one-fourth, or, at most, one-third of the child's waking hours are spent in the school room, and bearing in mind that self-control in a child under, let us say, thirteen years, especially if it be difficult self-control, is proportioned to the direct watchfulness exercised over him, one cannot but realize the great difficulty of uprooting this deeply seated disorder in the schools. Think of the difficulty under similar circumstances of causing a right-handed child to become by training left-handed, and you have a conception of the difficulties involved. The uncontrolled periods would be apt to serve to offset effectually the gains of the controlled periods. It is indeed a most serious question whether under conditions in which almost continuous discipline seems to be of vital importance, discipline during one-third of the time can be made to suffice. In the lightest cases the pupils would be benefited and eventually would recover; some of the moderate ones would probably succeed; but hope for success with the great mass of stammerers would, I think, hardly be warranted.

To overcome this serious drawback three possible things may be done.

1. Treatment may be extended over an unusually long period.

2. Parents may be systematically educated to enforce control intelligently at home.

3. A residence where the severely affected pupils might be housed day and night and kept continuously under observation could be created.

Indeed, it seems desirable that all of these expedients should play a part in the system. The relative ease with which long continued training could be secured is one of the great advantages of treatment in the schools. And while the cooperation of parents of a sufficiently intelligent character would be lacking in a large percentage of cases, yet this possibility in the system is deserving of the utmost emphasis. A systematic plan for the education of parents in the handling of their stammering children at home should be one of the prominent features of the method. Incidentally such cooperation is capable of saving a large sum annually to the community which attempts the public treatment of stammering.

SEGREGATION

Equally important is a home for the continuous residence of selected pupils. Carry out a plan of purely school treatment as rigidly as you may, yet many stammerers (I fear a large percentage) will prove to be incurable by it. Long lapses in self-control—from Fridays until Mondays, for example—will prevent success in many; weakness of will, extreme sensitiveness, unusual excitability, other abnormal nervous states, severity of manifestation in individuals, deficiencies of home environment, and especially the youthful age of the stammerer, will all play a part in producing failures. Such pupils demand the continuous molding influence of leaders capable of inspiring attention and compliance, and of skilled trainers capable of meeting every individual difficulty. There is no way, so far as I am able to forsee, to fully meet the demand of the problem without this continuous residence adjunct. The child would pass back and forth between the residence to the classroom and *vice versa*, instead of between the school and his home. Let it be realized that in case the problem of treating stammering were to be approached by any community without considering the public schools as a means for that purpose, the first necessity would be such a residential institution as I have mentioned. Thus, through the utilization of the schools, and the employment of such a residential adjunct, the whole expense of treating the disorder would be placed at the lowest possible point. From the point of view of government bookkeeping it seems hardly proper to charge up the expense of this especial institution to the school fund, but more properly it might be charged to an especial fund created for the purpose.

Successful handling of the problem of the stammerer in the public schools, then, seems feasible and desirable. Success will depend on the full grasp of the difficult nature of the problem. It will involve not only adequate instruction and training by selected teachers, but also full cooperation and direction by skilled physicians and psychologists, adequate supervision, and the institution of certain adjuncts to the regular school machinery, particularly the education of parents and a continuous residental home for selected cases.

UTILIZATION BY THE SCHOOLS

The utilization of the schools moreover, possesses certain inherent advantages. The first and most important of these is the possible reception of stammerers almost at the very beginning of the disorder. The stammering child under such a system needs not to await the attainment of usual school age before presentation at school, but with the enlightenment of parents may be presented whenever hesitation in speech becomes apparent. After the first few years every stammerer would be seen when he first entered school, and, as the years went on, a larger and larger proportion would be seen at a very early period after the inception of the disorder. The possibility and practical advantage at getting at the in-

citing causes would be unusual. And it is fair to presume that in the majority of cases incipient stammering could actually be arrested before the habit had become firmly fixed in the mental life of the child. Consider the saving in money, in effort, in character, in individual education, in mental suffering, and in successful lives, and such a possibility becomes of extreme importance.

Another advantage in the utilization of the schools for the public treatment of stammering would lie in the enevitable reception of nearly all stammerers, for nearly all children go to the public schools. And, also, it would lie in the permanence of the hold the system would have in each case. Only those who know the dogged tenacity of this disorder can realize the importance of such long-continued watchfulness and control.

The following suggestions are offered rather to open up the question of certain detailed methods which might be employed than as settled opinions, and they have reference in part to beginning efforts, when, as is the case in the Chicago schools, funds are apt to be inadequate.

A TENTATIVE PLAN

Scattered through the grades there would naturally be found a considerable number of fully developed stammerers offering more or less serious individual difficulties. In the practical attempt at the start to get at so extensive a problem these older cases might be passed over and the facilities available concentrated on the few lowest grades from kindergarten up. Having approached the problem through the incipient cases the full development of a system for all the stammerers could be made to accord with the success or failure in arresting the disorder in those already treated. The young stammerers who failed to respond to the more general measures first adopted would be taken one by one and together made the occasion of further steps in the development of the system. I am strongly disposed to emphasize treatment of the very beginners, to stand or fall, as it were, on the ability of a proper system to head off and to arrest a still incipient disorder. To this end the stammerers, as has been said, could be brought into the classes, so far as possible, before the regular school age. Especial attention could then be given to the study of exciting causes, and the treatment carried out, as far as possible, from that point of view.

In so far as practicable it would seem best to bring these beginning stammerers together from a number of schools into classes composed wholly of stammerers. Thus the most favorable conditions could be secured, and economy of time and expense encouraged. How the problem could be worked out with a few beginning stammerers in each school, in case it were impracticable to unite the cases from several schools, is hard to say.

If the grade teachers were capable of instituting general vocal training, including instruction in breathing, in chest control and in clearness of enunciation, perhaps with musical adjuncts, their cooperation with the especial stammering teachers could be utilized to advantage, for they, under those circumstances, could keep intelligent watch over the stammerers during the entire school period. But the plan of segregation, with the continuous care of a small class by especially trained stammering teachers seems much more likely to succeed.

The following suggestion is mentioned as a possible means of overcoming a practical difficulty connected with segregation. Let the plan of treating the stammerers by the schools be put forward at first, not as a universal proposal, but as an especial opportunity to be taken advantage of or not as the parents elect. Then let centralized schools be chosen for carrying on the work in the best and most economical manner possible. In this way there would be provided the needed opportunity to work out and prove a successful plan. Ultimately, as the public became convinced and funds became available, new centers could be created and finally all children provided for.

CONCLUSION

A practical degree of success in the treatment of stammering in the public schools seems possible, and yet one approaches the problem with profound respect. To a certain extent the road to success must be created through experience. With the determination to meet, as far as possible, the conditions of success, however exacting, the outcome must at any rate be as successful as the intrinsic conditions permit, and that degree of success would, I believe, be gratifying.

It means very much in possibility that this proposed plan for the public treatment of stammering should be studied and tried out. It means so much that failure would be a serious calamity. The wisest plan, from every point of view, as it seems to me, would be to concentrate the beginning efforts on a relatively small number of cases, to work out plans with great care, and to advance the system only in the light of painstaking trial and observation. The whole country would be the gainer from such an effort, and Chicago might well be proud to have made it. It could not but result in added knowledge which would aid greatly in the final solution of this difficult community problem.

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PAROXYSMAL TACHYCARDIA*

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Variations of the rhythm of the heart-beat occur in many pathologic conditions and are frequently seen in medical practice. In recent years a great impulse has been given to the study of these phenomena. Certain clinical types have been differentiated. Among these is a condition now generally known as paroxysmal tachycardia. At first quite widely and loosely applied to periodic attacks of rapid and irregular rhythm, it has more lately been confined to those cases of periodic tachycardia in which the heart attains a rate of 200 or more within a short time following the beginning of the attack. The clinical picture is one simply of tachycardia, it being very unusual for any irregularity of rhythm to occur. An attack of this kind is, of course, always alarming, and it is extremely important that its nature be recognized in order that suitable treatment may be instituted.

The unsatisfactory accounts of this disease in most text-books and the importance of its recognition are my reasons for considering the subject. For example, it can easily be imagined with what solicitude I watched the patient in the following case through the first attack which I saw.

History.—M. C., aged 29, a nurse-maid, was first seen in December, 1907, complaining of headache, dyspnea and dysmenorrhea. Patient had had typhoid fever at 14; several attacks of tonsillitis and several attacks of acute arthritis. In 1904 she first noticed dyspnea. I found a mitral stenosis, early

* Read before the Wayne County Medical Society at Detroit, Mich., February, 1910.

stage, when she first came to me. The murmur has at times assumed a musical character. In 1902 the patient was operated on, having a resection of an ovary. Later an abscess opened, and still later a ventral hernia closed up. In April, 1909, she had a complete hysterectomy. During the time I have had the patient under observation she has had numerous attacks of incompensation of her valvular lesion. These have all ended favorably with rest and strophanthus.

Examination.—On Oct. 9, 1908, she came to my office. When I attempted to count her pulse at the wrist, I was quite unable to do so. Hastily putting the patient on a couch, I counted the apex-beats with a stethoscope, and found the rate to be 220, and perfectly regular. Patient said that just as she entered my waiting-room door, her heart gave a sudden "flop" and she had been conscious ever since that it had been beating very rapidly. She was pale and somewhat short of breath, but walked out to my automobile, was driven home a mile and a half, walked up to the second floor, undressed alone and went to bed.

Course of Disease.—The attack lasted seven hours, ceasing as abruptly as it began. When it stopped the patient was very dyspneic and faint and thought that she was going to die. This passed off in a few minutes and except for exhaustion the patient felt perfectly well. The next morning she was able to go about her work as usual. There was absolutely no assignable reason for either the onset or cessation of this particular attack. She has had ten or twelve attacks in three years, each lasting from thirty minutes to nine hours. I have seen her in only two of these attacks, although I have seen her many times

Fig. 1.—Sphygmographic tracing of radial pulse taken during an attack of paroxysmal tachycardia. Pulse 220.

Fig. 2.—Sphygmogram of same patient taken between attacks. Case of mitral stenosis. Rate of pulse, 90.

for other complaints. She had one while in Harper Hospital, convalescent from an operation. She had one at Port Huron and was seen, I believe, by Dr. Stockwell. The mitral murmur and thrill, which are ordinarily distinct, in her case could not be detected during the tachycardia. During the second attack in which I saw her, I made sphygmographic tracings from the radial artery, but unfortunately lost them. The record was "saw-tooth," perfectly regular, very similar to one published by Mackenzie.[1]

SYMPTOMS

In general the attacks come on suddenly, usually without warning of any kind, and almost invariably without relation to any recognizable premonitory signs. The first intimation of the attack is usually described as a "flop" of the heart, and the tremendously increased rate is started almost instantly. The onset has been observed in a few cases and three or four extrasystoles have been observed before the greatly increased rhythm began. This, however, is not constant. There follows a sense of pressure over the precordial area, and almost invariably an inclination of the patient to sit down. Marked anxiety is shown, which usually passes off as the patients become accustomed to the attack and find that they have no pain and are not going to die immediately. The patient prefers a horizontal pose. The face is usually pale. Profuse sweating has sometimes occurred, but is unusual. Duration of attacks varies from a few hours to six or eight weeks. Usually there are no murmurs, the sounds of the heart corresponding to the fetal type. There may be greater or less depression, depending on the strength of the heart muscle. Patients show always a strong inclination to avoid exertion, although they apparently do not increase their discomfort by moving about, except a certain shortness of breath. Thus, my patient rode in from Pontiac on the trolley-car during an attack and then took the street-car three miles out to her residence, and apparently suffered no ill effects from it, although she was badly frightened.

The end of the attack is usually as abrupt as its onset. There is another "flop" and a feeling of goneness and suffocation with a subjective impression of impending death. This passes off in a few minutes, however, and except for exhaustion, the patient feels as well as before. In cases long continued, and especially those in which the heart was weak in the beginning, signs of stasis may occur; dyspnea, cyanosis, edema, cold extremities. Even in cases in which death was apparently imminent, sudden cessation of the attack has occurred, with prompt relief of all the extreme symptoms.

ETIOLOGY AND PATHOLOGY

It has not as yet been possible to produce paroxysmal tachycardia by any experimental procedure on the nerve-supply of the heart. Mackenzie, who has studied this condition and had autopsies performed on a number of these patients, designates this action of the heart as "nodal rhythm." An explanation of this term requires the consideration of the recently changing theories concerning the origin of the heart-beat.

For many years what is known as the "neurogenic" theory held complete sway among physiologists. This theory went on the assumption that the heart-beats originated in ganglion cells of the nervous system and were carried through nerve tissue to the muscular tissue of the heart, and that the function of the heart-muscle itself was simply that of contraction. Modifications in this theory were made to correspond to increasing knowledge, anatomic and physiologic. Latterly it was taught that the heart rhythm originated in the ganglion cells present in the heart and was distributed by nerve fibers to the heart muscle. The inhibitory influence of the vagus and the opposite action of the accelerator nerves were discovered and fitted in perfectly with this theory. Two objections, however, were brought forward. In the first place, some parts of the heart, like the apex and the aortic bulb, contain no ganglion cells. They can be made to beat rhythmically, however, under proper conditions after having been separated from the rest of the heart. The second objection was that in some animals pulsations of the heart appear in the embryo long before there are any ganglia in the tissues of the heart. For example in the chick the pulsations of the heart are noticeable in thirty-six hours, but the heart contains no ganglia until the sixth day.

Finally Gaskell, in experimenting on the heart of a tortoise, found that he could cut all the nerves without interrupting the rhythm of the heart so long as the muscular connections between the sinus and the ventricle were undisturbed. After cutting the muscular connections the ventricles stopped and then started again, beating with a rhythm different from that of the auricle.

In 1893 a very important contribution to our knowledge of these facts was made by the discovery of the bundle of His. This consisted of muscle fibers passing

1. On March 4, 1910, the patient was seen in a typical attack of paroxysmal tachycardia, and the accompanying tracing was taken at the time. The pulse was 220, the patient anxious, short of breath, slight sweating, more comfortable sitting than reclining. Apex two fingers outside nipple line. No first sound; usual thrill and murmur absent. Attack lasted seven hours. When rhythm returned to normal, patient was unconscious for several minutes, but next morning was able to do her work as usual.

from the right auricle into the auriculoventricular septum, and sending branches out into both ventricles. The muscle cells in this bundle differ in structure from the other muscle fibers of the heart, being embryonic in character; that is to say, they are apparently the remains of the primitive cardiac tissue. The location of this bundle I have sketched in the drawing (Fig. 3).

Later, Tawara, a Japanese investigator, separated a complicated net-like nodule from the rest of the fibers of the bundle of His, and this is now known as Tawara's node, or the atrioventricular node. Later Keith described a second node similar to Tawara's situated at the juncture of the superior vena cava and of the auricle. Tawara's node is in the auricular part of the bundle of His. These nodes receive special arteries, and are now looked on as the seat of the impulses of the heart-rhythm.

The modern or myogenic theory of the heart-rhythm is that the impulses arise in and are transmitted by this primitive cardiac tissue known as the bundle of His, which is composed of muscle cells embryonic in character. In particular it is believed that normally the impulses arise in the node of Keith. The experiments previously referred to, however, in which the ventricles started up with an independent rhythm after both nerve and muscle connections were cut, are taken to prove that Tawara's node alone also may originate impulses capable of producing ventricular impulses. All these, of course, are subject to inhibition and acceleration by the well known nerve channels.

The nodal rhythm of Mackenzie rests on the assumption that for some reason the impulse begins in the node of Tawara instead of Keith, thus reversing the normal sequence of contraction, or even in some cases, he believes, there seems to be no auricular contraction whatever. The nodal rhythm is found not only in paroxysmal tachycardia, but also in various arrhythmias. The change in the origin of the impulse might occur through one of two means, either the impulse from the auricle is interrupted in its transmission to Tawara's node, and the latter being independent takes the lead, or through disease Tawara's node becomes more sensitive and originates impulses at a rate which interferes and possibly overcomes the auricular impulse.

In two cases of paroxysmal tachycardia which had been observed for several years by Mackenzie, Keith found areas of fibrosis of the myocardium with distinct evidences of cellular changes in the bundle of His. In one case he found total obliteration of the lumen of the artery supplying the bundle and probable degeneration of the cells of the bundle. The pathology known then is a fibrosis and degeneration of cellular elements in the heart extending to the bundle of His in such a way as to produce the nodal rhythm. Hoover says clinical evidence tends to show that paroxysmal tachycardia may result from disease of the medulla or reflexly through the medulla, from affections of the vagi, and from myocardial disease. Pal believes that it may be due to vasomotor relaxation in the splanchnic vessels.

The inability of investigators to produce the condition experimentally is interesting, and many observers have declared the condition a pure neurosis. This conclusion, however, seems hardly justified by our present knowledge. Apparently inhibition is suspended and instead of receiving successively phases of contraction, relaxation and rest, we have a condition approaching embryocardia.

The influence of position in these cases is marked and interesting. Some subjects can stop attacks by standing head down and feet up in a corner. One patient could stop it by leaning forward with the arms hanging down. In the case reported to-night two attacks came on while the patient was leaning over with the arms extended making a bed, and one while putting on a night-dress with the hands high above the head. Hoover relates the following interesting experience:

A woman aged 35 years had had many attacks of tachycardia during the past ten years, averaging about three or four a year. There has been a very constant relation between nervous or emotional excitement and the attacks. The common sequence of events has been, constipation followed by accumulation of gas in the stomach and bowel, several sleepless nights, and then the attack of tachycardia which sometimes began with the "heart-flop" and at other times the tachycardia was in full force before any warning of any kind was perceptible. She had learned to bear these attacks with equanimity and no longer permitted them to interfere with attendance on her household duties, as she experienced no severe discomfort. Never before had a paroxysm of tachycardia lasted more than eight hours, but in this instance it persisted twenty-eight hours. The patient had been operated on two weeks before for

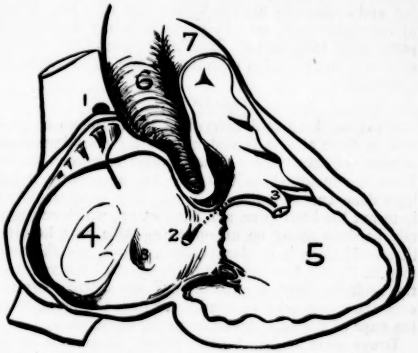

Fig. 3.—Diagram showing position of a portion of the remains of the primitive cardiac tissue, including the nodes of Tawara and Keith. 1. Superior vena cava and node of Keith. 2. Auriculoventricular node of Tawara, from which the auriculoventricular bundle arises. 3. Right division of the auriculoventricular bundle. 4. Right auricle. 5. Right ventricle. 6. Aorta. 7. Pulmonary artery (after Keith).

suppurative salpingitis, and both tubes and ovaries were removed. A daily rise of temperature as high as 101 persisted after the operation. The pulse-rate remained between 100 and 120. The preceding day tachycardia commenced without the slightest warning or any unusual experience. The pulse-rate was 240 per minute, and so small at the wrist that no tracing could be obtained. The heart dulness was increased one and one-half inches to the right of the sternum and one inch external to the nipple line. There was a large centrifugal pulse visible in the external and internal jugular veins which had the same rate as the carotid pulse. It was impossible to determine by inspection the time relation between the jugular and the carotid pulse, but the two tracings taken with the Jacquet polysphygmograph show very clearly that the jugular pulse alternated with the heart and with the carotid pulsations. There were no signs of stasis in the liver or extremities. There was no cyanosis or dyspnea. Embryocardia was well pronounced. The tracings show the correlation between auricular and ventricular contractions as undisturbed. Pressure on the vagi, compression of the abdomen, and holding the glottis closed after deep inspirations had no effect. The patient was then taken out of bed and held with heels up and head down for a minute without result. She was then instructed to take a deep inspiration and "bear down" while in the inverted position. In a few seconds the heart-rate suddenly changed from

240 to 120, the rate which was in force at the onset of the tachycardia. The tracings and the exact halving of the heart-rate at the end of the attack show it to have been caused by the liberation of a series of extrasystoles from the auricle, all of which were transmitted to the ventricle. Vasomotor dilatation in the splanchnic area was probably not the cause of this attack. Had that been the case, inversion alone would have sufficed to arrest the tachycardia. The additional factor (viz., forced expiratory effort with closed glottis after a deep inspiration) was required to stimulate the bulbar inhibitory center sufficiently to arrest the series of extrasystoles. The heart-volume returned to the normal boundaries immediately after the tachycardia ceased.

DIAGNOSIS

The diagnosis of paroxysmal tachycardia is usually not difficult. The rate is much higher than in other tachycardias, such as accompany fevers and thyroid diseases. While cardiac dilatation occurs in many cases of this disease, it is accompanied by no arrhythmia unless in the very latest stages. There may be difficulties in the diagnosis of periodic arrhythmia from myocardial disease. In general, however, a pulse-rate over 200, regular, and apparently not the termination of a long period of incompensation, may be pretty certainly set down as paroxysmal tachycardia. Mackenzie states that it occurs as a rare complication of mitral stenosis and aortic insufficiency.

TREATMENT

What has been said concerning the influence of position in these attacks is undoubtedly the most important element of treatment. I have never succeeded in influencing an attack in this way, but apparently it has been done and will often succeed. The simplest device is to put the head down and the feet up, which can usually be done easily on an operating-table or a hospital litter. If there is no dyspnea or cyanosis, the abdomen may be tightly bandaged. Compression of the vagus in the neck has been successful, and the electric current over the vagus may be tried. Ice over the heart or at the nape of the neck should be useful at times.

Drugs seem to be of little value. Mackenzie states that after many year's experience he has decided that his drug treatment has no effect on the attacks themselves. Proper treatment between attacks is, of course, very important. Abstinence from stimulants is important and gastro-intestinal insults should be avoided. In cases in which the blood-pressure is high, persistent measures should be taken to reduce it.

CONCLUSIONS

1. Paroxysmal tachycardia is a term applied to cases in which the nodal rhythm is transient and recurrent.

2. It may occur as a complication in mitral stenosis and aortic insufficiency.

3. While its onset is alarming, the individual attacks usually terminate in recovery very promptly, and this fact necessitates great caution in the prognosis of the disease.

4. Treatment of the individual attacks consists almost entirely in physical therapy by position and external applications. Proper general treatment between attacks is indicated.

Congenital Edema of the Leg.—At the time of the birth of a female child there was noticed a well-marked edematous swelling of the sole and dorsum of the right foot and a swelling of the leg on its front and outer aspects which had continued. The right leg was one-half inch longer than the left, measured from knee to heel. It was believed that a deep angiomatous condition could be excluded.—Maynard Smith, in *Proc. Roy. Soc. Med.*, March, 1910.

A MODIFIED SIMPSON'S TAMPON TO PREVENT NASAL HEMORRHAGE *

MARK D. STEVENSON, M.D.
AKRON, O.

It sometimes becomes necessary to use mechanical means to stop nasal hemorrhage, spontaneous, following operations, or due to any of its many causes. After most nasal operations the patient should be kept in bed in a hospital for a time, but if this ideal condition cannot be fulfilled and the patient has to go home or some distance from the operating room, away from skilled attendance, it is safer to tampon the nares. I will describe a very easy and efficient method of tamponing the nose, which requires but a moment for its performance and is less distressing than packing by gauze or other material. The ordinary treatment of epistaxis by cauterization, etc., will not be considered in this paper.

Rest in bed, the quiet assurance of the nurse or physician that the bleeding will cease, which it practically always does when the blood pressure is sufficiently lowered, ice to the face or neck, hot water bottles to the lower extremities, and, if necessary, to the lower parts of the body, nearly always succeed in stopping the bleeding. The patient should be turned on the side from which the nose is bleeding, so that the blood may drip directly into a pus basin or towel and not compel him to clear the throat of blood or otherwise in any way disturb the clot. The clot is Nature's effort to prevent the hemorrhage and should be conserved.

I think the application of drugs usually accomplishes little more than to disturb the clot. Peroxid of hydrogen, solutions of cocain, and especially adrenalin, help to prevent or to stop immediate hemorrhage, but I think there is greater likelihood of after hemorrhage than if they had not been used. I do not put as much confidence as some do in the use of the calcium salts before an operation.

After a nasal operation, if the patient cannot be kept in a hospital, it is often advisable to tampon the nasal cavity. I use a tampon composed of compressed cotton, a modification of Simpson's tampon. I found the Simpson tampon too small, so I had larger ones made. They are three inches long and one-half inch wide by one-sixteenth or one thirty-second inch thick; when moistened they swell until very much thicker. The cotton tampon must be kept dry before introducing. It should be wrapped in thin gutta percha of equal length, the gutta percha being wrapped around the tampon two or three times, much like wrapping a cigarette, and the free edge, except at the ends, gummed down by some sterile ointment, e. g., zinc oxid or 2 per cent. calomel ointment. The gutta percha tissue is easily kept clean by keeping it, cut into proper sized pieces, three inches long by two and one-half inches wide, in a 1 to 2000 solution of formalin. The thin gutta percha which deteriorates in the air keeps well in this solution and should be thoroughly dried between layers of gauze before applying to the tampon.

If it is desired to plug the naris without knowing where the hemorrhage is coming from, or following removal of the inferior turbinate or a large ridge or spur low down on the septum, the long tampon is introduced into the naris and pushed horizontally backward along the floor of the cavity until entirely within the nose. The posterior end will then lie in the posterior choana. Sterile water, normal saline, compound tincture of ben-

* Read before the Ophthalmological and Otolaryngological Section of the Cleveland Academy of Medicine, Feb. 25, 1910.

zoin, or some mildly antiseptic solution should then be dropped on the open end of the tampon, which will cause it to swell. Moisture may also be admitted through a few small perforations in the gutta percha. The tampon will then press evenly against the external wall of the nose and septum and occlude the posterior choana and anterior naris. The septum ordinarily is fairly elastic and gives a little so that too much pressure is rarely, if ever, felt. In a wide fossa two are required side by side. They are best introduced at the same time, although they should be wrapped separately in gutta percha, as they are then more easily removed. Occasionally one should be split and one and a half introduced or even two and a half. Experience soon teaches how many to use. In some very narrow anterior nares the full size may be too wide to introduce, or it might seem that when swollen it would be too large to remove easily. The tampons can be readily narrowed to any desired width by a strong pair of scissors. They rarely require to be shortened.

I have never had any special difficulty produced in the nasopharynx, tube or ear, after using the tampons, although in twenty-four or forty-eight hours they should be removed, as they are no longer needed. After removal of the middle turbinate or a spur high up on the septum they can be cut much shorter and introduced high up into the nasal fossa where, after moistening, they remain. Simpson's tampons which can be used in the upper portion of the nasal fossa are much too short to use in the lower part of the nose, and if two are used, one in front of the other, some difficulty may be experienced in removing the posterior one. Good, who was the first man I saw use Simpson's tampon, has also devised a much larger one, but it is so wide that, in my opinion, it could be introduced and removed through only a few of the largest nares.

These smooth surfaced tampons are easily and usually painlessly (in contrast to gauze or cotton packing) removed, preferably by an alligator forceps. Hemorrhage usually follows removal for a few moments, but if the clot is not disturbed by blowing the nose there is little bleeding. Usually the clots should not be washed out for another twenty-four hours, and only very gently at first, depending on the case. If the end of the tampon in the anterior naris is covered by swelling of the mucous membrane, after the mucus is wiped or sprayed away, a 10 per cent. cocain in adrenalin (1 to 1000) solution can be applied on pledgets of cotton, quickly shrinking the swollen tissues and exposing the often flesh-colored end of the tampon. If the septum is too freely movable it may be supported in the opposite nasal fossa by another tampon, or, if it be thought necessary to breathe through that side of the nose, by some of the pervious nasal splints or by a proper sized piece of rubber tubing. There is no distress in introducing tampons following an operation, and very little in any case. If an anesthetic has not been previously used for an operation the nares should sometimes first be sprayed with a weak solution of cocain or other local anesthetic, and adrenalin.

Congenital Absence of Left Femur.—P. Lockhart Mummery (*Proc. Roy. Soc. Med.*, March, 1910) reported the case of a male child, aged 2, in which there was an absence of the left femur. The knee-joint appeared to be normal but was close up to the left hip; below the knee, the leg was normal but rotated outward. The *x*-ray shows the diaphysis of the left femur missing, the lower epiphysis being present, with a small island of cartilage above this. The child showed no other congenital defect and is healthy.

RESPIRATORY JOINT CREPITATIONS

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For many years I have occasionally heard confusing adventitious sounds over the scapular areas during auscultation of the organs of respiration. They may be of a creaking, crunching or bubbling character, and may occur during either or both phases of respiration. They are somewhat superficial and are confined to the scapular areas, or, if they extend outside, lose considerably in intensity at the bone margin. Displacement of the scapulæ forward causes them to disappear, and clear respiratory sounds are now audible when the stethoscope is placed over the same pulmonary area.

I have been able to demonstrate these sounds to students in the clinic and have hitherto listed them under the term "the scapula rub." Three well-marked cases of late have enabled me, however, to trace their origin. In all three cases they were produced in the apparently healthy shoulder-joint during its respiratory movement. From this position of maximum intensity they were propagated by the scapula to the suprascapular and infrascapular regions and by the humerus along the arm, over which they were heard with peculiar distinctness. In one instance they were propagated along the clavicle, but did not reach the sternum. In two of the three cases they had led the examiner to entertain a suspicion that the patient had tuberculosis.

I have deemed their occurrence of sufficient importance to draw attention to for the following reasons:

1. No mention is made of them in the student's textbooks.

2. They sometimes lead to an erroneous diagnosis of tuberculosis of the lung area over which they are heard.

3. Physicians who devote most of their time to the treatment of tuberculosis tell me that though they have long heard similar sounds they have never been satisfied as to their origin.

It seems not improbable that similar confusing sounds may be produced in the sternoclavicular and acromioclavicular joints.

TRAUMATIC RUPTURE OF THE MESENTERY*

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Most American and English authors either disregard this condition or treat it only as a complication of rupture of the intestine. In the latter form it is frequent, but rupture of the mesentery alone without other lesions in the intestine is comparatively rare. A few cases have been reported by German and French authors.

Neumann[1] reports one case in a boy run over by a wagon, the blood-vessels were ligatured and the mesentery sutured. Complete recovery followed. Neumann also collected nine cases (reported 1845-1896) in which autopsies had revealed rupture of the mesentery; the injury being due in most cases to being run over by wagons, or to falls or jumps from heights; in one case, to a kick by a horse and in one, that of a car conductor to being jammed between his car and a wagon.

* Read before the Pulaski County (Ark.) Medical Society, March 21, 1910.

1. Neumann, R.: Beitr. z. klin. Chir., 1904, lxiii, 676.

Kudlik[2] reports two cases, one of a child run over by a wagon, one of a man injured in a factory; both showed rupture of the mesentery without injury to the intestine, with hemorrhage. The child recovered from the operation; the man died from peritonitis.

Autenrilth[3] reports one case, that of a child of 4½ years, also run over; the mesentery was ruptured, tearing many of the branches of the arteria mesenterica, with serious hemorrhage. The child recovered.

Laubie[4] describes an autopsy on a man who fell from a height of 15 meters and died a few hours later. The mesentery was ruptured with hemorrhage of the mesenteric artery; no other lesion of the intestines. Death was probably due to hemorrhage.

Erdmann[5] reports three cases; in two of which the mesentery was torn from the intestine; and one in which there were as many as twenty lacerations of the mesentery causing hemorrhage. Recovery ensued in all cases.

Hume[6] reports a case of torn mesentery followed by resection of a portion of the intestine and recovery.

The following is a case which came under my observation, post mortem:

History.—On July 31, 1909, about 9 p. m., the patient, P. J. I., a white man, aged 40, engaged in a fight on the street, in the course of which he either fell or was knocked down and some witnesses stated that he was kicked in the abdomen. Apparently not much injured, with the exception of a few bruises about the face, he was arrested and taken to the police station. About 10 p. m. he complained of pain in the abdomen and a physician was called. A few bruises on the face and a rapid pulse (which was attributed to his drinking) were the only objective symptoms found. The next morning (Sunday) at 7 a. m., he was removed to a hospital, still complaining of abdominal pain. His temperature was 97 F. and his pulse 70 and very weak. During the day, however, he was able to walk about the ward. At 6 p. m. his temperature was 97 F. and his pulse was 80. Sunday night he vomited several times and had to be catheterized. On Monday, August 1, at 6 a. m., his temperature was 100 F. and his pulse could not be counted. From then on his condition became progressively worse until he died at 3 p. m.

Autopsy.—All organs were practically normal. No bruises or marks on abdominal wall. The abdomen was filled with fluid blood which came from an irregular tear entirely through the mesentery. The tear was 3 cm. long, just opposite the fourth lumbar vertebra and 2 cm. from the posterior attachment of the mesentery.

I am indebted to Dr. O. K. Judd for the clinical history of this case.

A REMARKABLE CASE OF METHYL-ALCOHOL POISONING

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History.—Mrs. M. D., a Russian Jewess, was brought to the office blind on March 8, 1910, giving a history of failing vision beginning eleven days before. After an examination which led to the probable diagnosis of toxic amblyopia, the following history was elicited. Fifteen days before she had been present at a dinner, on which occasion she partook of a small quantity of whisky, about one tablespoonful. Her habits had been temperate, that is, she was accustomed to take 1 to 2 teaspoons of brandy once a day with her mid-day meal. Two days after the dinner she began to have pain over the eyeballs, more marked on moving the eyes, also headaches and some blurring of vision. The diminution of vision continued until the vision of the right eye was absolutely abolished, that of the left considerably reduced. This was three days before she was brought to me.

Examination.—With neither eye could the patient count fingers at any distance. The fields taken roughly with a visiting-card brought out the fact that there was an absolute central scotoma in the right, with some indefinite peripheric vision present, except below. The field of the left eye was similar, but with no central scotoma. There was absolute color-blindness. The ophthalmoscopic picture was that of marked papillitis in both eyes (amounting to 5 diopters in the left and 3.5 diopters in the right eye), with enormously widened and somewhat tortuous veins. Even the finer veins leading from the macula were greatly injected. The arteries were only slightly narrowed. The retina itself seemed in no way involved. The pupils were quite wide, but not fixed, reacting weakly and widening again. The general history and physical examination disclosed that the patient had been suffering from cholelithiasis for some time past. Considering the rapidly failing bilateral loss of vision, the diagnosis of toxic amblyopia suggested itself in spite of the marked papillitis and the headaches, which latter a rapidly growing intracerebral neoplasm might have explained. The brandy habitually consumed by the patient was examined by Dr. Arthur Bookman of the Mount Sinai Pathological and Chemical Laboratory and found to contain 6 per cent. of methyl alcohol. The dinner whisky could not be obtained.

Course of Disease.—In the further course of the case, during the next week, there was at first an increase in the swelling of the nerve-head with a few small hemorrhages, very narrow arteries, and still greater contraction of the field until only the upper outer quadrant in either eye remained. After another week the functional examination showed improvement in vision to the extent of counting fingers at 1 foot with either eye, and considerable enlargement of the fields, bearing out, for the first time, the report of subjectively improving vision. Objectively, the swelling of the discs had diminished, the outline being fairly well defined in the right eye and shining through the still edematous fibers in the left. After ten days more, both discs looked fairly normal and not even especially pale; except that the larger arteries were still considerably narrowed. The fields for white were roughly of apparently normal size, though no further improvement in central vision, beyond the counting of fingers at 1 foot could be noted. At the present writing, about seven weeks after the onset of the trouble, the patient's vision in each eye has improved to 20/50. The field is normal for white and for colors. The pupils react well. Ophthalmoscopically the nerves are slightly pale and the arteries less filled than normal.

The remarkable features of this case are that it occurred in a temperate woman in whom wood-alcohol poisoning would not easily suggest itself; that it was probably a case of chronic poisoning in which the addition of a somewhat larger dose brought on the acute symptoms; that only a very small quantity of the poison (about 7 to 8 grains) was ingested daily; and that the papillitis present was intense.

It is well known that methyl alcohol taken in small quantites is innocuous to many persons, whereas, on the other hand, there are many people for whom even half a teaspoonful would constitute a poisonous dose. This difference in susceptibility to the poison is probably due to the difference in secondary chemical compounds formed in the alimentary canal and the blood. At one time formaldehyde, one of these, was suspected, but this is probably not correct, nor can any admixed impurities, such as acetone, which was also accused, be made answerable.

In my patient the symptoms of cholelithiasis showed a disturbance in the function of the liver and consequent interference with digestion. It is probable that her intolerance to the small doses of methyl alcohol was due to this condition.

2. Kudlik: Deutsch. Ztschr. f. Chir., 1908, xciv, 327.
3. Autenrilth: München. med. Wchnschr., 1908, lv, 513.
4. Laubie, A.: Gaz. hebd. d. sc. méd. de Bordeaux, 1907, xxviii, 29.
5. Erdmann, J. F.: Am. Jour. Med. Sc., 1905, New Series, cxxix, 980.
6. Hume, G. F.: Univ. of Durham, Coll. Med. Gaz., 1906, vi, 122.

The ophthalmoscopic picture of methyl-alcohol poisoning appears under three varieties or degrees: first, entirely negative; second, with a well-defined pale disc and contracted arteries from the beginning, and third, as a neuroretinitis of moderate degree.

Pathologically, two structures are affected in methyl-alcohol poisoning, the ganglion cells and the blood-vessels, and probably the ophthalmoscopic picture varies according to the kind of structures involved and the degree of involvement. In the first variety, with the negative opthalmoscopic picture, the ganglion cells are primarily injured and the injury leads subsequently to the ascending atrophy of the nerve fibres.

The second picture, pale nerve with narrow arteries must be due to the effect of the poison or the respective derivatives of the poison on the blood-vessels, and is comparable to the effect of poisoning with quinin and the salicylates.

The third picture, neuroretinitis with swelling of the nerve-head and engorged veins, is either due to a real neuritis or dependent on altered circulation and pressure conditions within the cranial cavity.

In both these latter forms, there is of course the ganglion cell degeneration added to the circulatory disturbance. As a final result we find ophthalmoscopically a simple atrophy, corresponding to the first class, and a neuritic atrophy, corresponding to the second and third pictures.

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POISONING BY MERCURIC CHLORID THROUGH VAGINAL DOUCHES

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In discussing the various ways in which mercury, therapeutically administered, may be absorbed with toxic consequences, little emphasis has been laid on the danger attending its use in vaginal douches. The drug is surely freely used in this manner, and doubtless many individuals show a dangerous susceptibility to its irritating effect.

A recent experience with a fatal case of mercury poisoning through vaginal douches, is worth recording, so that it may constitute a warning to others. Inasmuch as several similar cases have recently been reported[1] in THE JOURNAL, the chronicling of another, even though it be a rare experience, must be considered an urgent duty.

The patient, Miss K., aged 35, first consulted me on the morning of Jan. 23, 1910. She gave a history of persistent vomiting and purging of four days' duration. Careful questioning elicited no satisfactory information, and her symptoms were without known cause. The taking of medicine in any form was denied. An epidemic of intestinal grippe was raging at the time and her condition was ascribed to this. She complained of no pain whatever, nor did physical examination elicit anything further. Powders of bismuth and morphin were given.

She was again seen January 25. Purging had ceased entirely, but vomiting followed everything taken by mouth. No pain was complained of, and the abdomen was not sensitive to touch. There was neither headache nor dizziness; vision was good. Since Jan. 23, anuria had existed. Again detailed questioning elicited absolutely no information of value, and the patient again denied having taken medicine or of even having used drugs or medicine in any form whatever. Efforts to stimulate the flow of urine were made. During the following night a small quantity was voided (after 72 hours' anuria) which, inasmuch as menstrual flow had begun, the attendant failed to save, as had been directed. On the previous day epistaxis was noted, continuing 36 hours. While during the first few days the mental condition was apparently normal, the patient occasionally lapsed into a dazed state when she remained unnoticed. Epistaxis recurred on Friday the 28th, and with the vomitus much of the swallowed blood was regurgitated. On the evening of this day four ounces of bloody urine were withdrawn by catheterization. It contained an abundance of albumin, epithelial cells, hyaline casts, blood and pus. Every effort was made to restore the action of the kidneys, but, save a slight response as indicated by a small quantity of bloody secretion, no further result was attained. The patient was in a stuporous condition during the night of Friday the 28th and the following day.

Although suspecting that the patient had taken mercury in some form, either with suicidal intent or by accident, this was strenuously denied, and no explanation for the rather characteristic symptoms of corrosive sublimate poisoning was suggested. However, on Saturday, the 29th, the day before her death, corroborative information of the suspected cause was obtained. I was reliably informed that on the day she was first taken ill, January 19, four days prior to my first visit, she had consulted another physician, complaining of severe irritation and burning of the labia. This physician was told that she had been using douches prepared by dissolving tablets in water, and the tablets were recognized by him as being mercury bichlorid. On examination he found a most intense inflammation and edema of the labia and vaginal tract, so much so that instrumental examination was impossible; and he noted the patient's excruciating suffering from the local condition.

Lacking evidence that the patient had taken mercury in any form by mouth, it is evident that the absorption of the poison in toxic quantities must have taken place through the vagina. The strength of the solution used is not known. In any event, this case, and others recently noted in THE JOURNAL[1], ought to constitute a warning to physicians that mercury can hardly be employed with safety in this manner.

141 Wisconsin Street.

1. THE JOURNAL A. M. A., April 9, 1910, p. 1203 and April 30, 1910, p. 1458.

BRONCHIAL VINCENT'S ANGINA

J. H. ROTHWELL, M.D.
LIBERTY, MO.

Vincent's angina is a disease that usually attacks the throat, especially the tonsils. The following cases, I think, will show that, like diphtheria, Vincent's angina sometimes attacks the tracheal and bronchial mucous membranes.

CASE 1.—Miss A., went to Kansas City, Dec. 7, 1909, to visit a brother, not feeling well when she left home. At 10 a. m., December 10, while down town shopping she was taken with a chill. She was taken to her brother's home and a physician called, who pronounced it a severe case of pneumonia and advised that the patient be brought to her home here.

I saw her about 7:30 p. m. Her temperature was 104 F. There was intense pain in the left side below the nipple, constant coughing, with profuse, bloody fluid sputum, and a sensation of great oppression over the upper part of the chest and a sensation of smothering. The breathing and cough resembled those of both asthma and croup. The tongue was clean and the throat not involved, no membrane or ulceration of any kind being present. I could make out no consolidation of the lung and the case did not impress me as being pneumonia. I procured some of the sputum and a smear showed it to be full of Vincent's spirilli and fusiform bacilli. This was evidently a case of bronchial infection, just as we sometimes have laryngeal and bronchial diphtheria. The next morning the temperature was normal and from that time for ten days or two weeks it varied from normal to 102 F. The characteristic breathing, cough and sputum continued, though gradually abating. The

patient was able to be up in about three weeks. Six weeks later, on any exertion, such as sweeping, she would expectorate the same fluid, bloody sputum full of Vincent's spirilli, and it was two or three months before she was entirely free from them.

CASE 2.—Another case was that of a woman who came to visit her sister to recuperate from an attack of grippe. After a few days I was called to see her. She was suffering with pneumonia; the infective agents at this time being the *Pneumococcus* and *Diplococcus catarrhalis*. She was a very delicate epileptic, with a very bad heart lesion, but she recovered in the usual time and went to her home. In a few days she was brought back again with a relapse, the infective organisms this time being those of influenza and *Diplococcus catarrhalis*. Every day or two during this attack she would have a seizure of severe, asthmatic coughing, with a sense of great oppression in the chest and a smothering sensation, accompanied by the expectoration of a fluid, bloody sputum full of Vincent's spirilli and fusiform bacilli. At other times the sputum did not contain many spirilli and often none. But when these attacks did come on the cough, breathing and sputum were characteristic of the former case.

These two cases were very interesting to me and similar cases have never been reported so far as I know. Altogether I have had three cases complicated with bronchial, Vincent's angina. I reported these cases to Dr. Frank J. Hall, a pathologist, of Kansas City, Mo., and he said that he had never seen any cases like them, nor had he seen any reported. Several months later, while I was visiting his laboratory, he told me that he had, a few days before, been called, with another physician, to see a patient whose case was a puzzling one, the patient having been under treatment then for six weeks, and he had found the same characteristic symptoms, viz.: the oppression of the chest and smothering sensation, and the breathing and cough resembling those of asthma and croup and the fluid bloody sputum which I had described to him as occurring in my cases. On microscopic examination, the sputum was found to contain great numbers of Vincent's spirilli and fusiform bacilli. On the strength of the diagnosis, iodids were administered and iodin in a nebulized form used. In two or three days the patient was greatly relieved. He reported that Dr. Hall said that no sign of the disease was apparent in the throat. So I am convinced that Vincent's angina sometimes attacks the tracheal and bronchial mucous membranes.

THE DIFFERENTIATION BETWEEN DEMENTIA PRÆCOX AND DEPRESSIVE STATES BY SO-CALLED BIOLOGIC BLOOD-TESTS*

ELLEN CORSON WHITE, M.D.
AND
S. D. W. LUDLUM, M.D.
PHILADELPHIA

While the Wassermann reaction is of greatest value in differentiating between syphilis and non-syphilitic diseases of the nervous system, it does not permit of further differentiation between so-called functional nervous diseases.

Recently Much published a description of a method by which, he believed, he could differentiate dementia præcox and manic-depressive disease from other diseases. The method is based on the inhibiting action of blood-serum in cobra hemolysis. His results have not been confirmed by others.

In the following we wish briefly to state that we seem to have been able to differentiate by relatively simple methods between dementia præcox on the one hand and melancholia on the other.

Our method is based on the determination of the fixation of complement of guinea-pig serum by the serum of the patient. We found that in melancholia the amount of complement absorbed is very much larger than in all other diseases that we have encountered, and also much larger than in dementia præcox, in which disease it is approximately normal.

We have tested 67 cases of various mental diseases, 37 cases of melancholia half of which were of the manic-depressive type, and the others involutional. So far our test has been decisive and characteristic in all cases examined. We shall continue the examination for possible exceptions.

We also wish to state that it is possible to differentiate more clearly between mental diseases by using very carefully standardized factors in Much's method. In our cases this reaction always occurred in dementia præcox and almost never in melancholia, when all the factors were standardized.

In conclusion we wish to say that our results distinctly indicate that in so-called functional mental diseases, chemical changes in the blood take place, and can be discovered by so-called biologic methods.

216 South Fifteenth Street.

* Preliminary Report from the Laboratory of Neuropathology in the University of Pennsylvania.

ILEUS, DUE TO MECKEL'S DIVERTICULUM

ATTACHMENT OF TERMINAL LIGAMENT TO MESENTERY MAKING RING, THROUGH WHICH ILEUM FORMED A HERNIA WITH STRANGULATION

C. E. HARRIS, M.D.
BLOOMINGTON, IND.

History.—W. F. N., male child, aged 2, up to Dec. 23, 1909, had had no serious illness. About 3 a. m., December 23, the child awoke and seemed to be in great pain. Half an ounce of castor-oil was given by the parents. About 5 a. m. the child began vomiting. Pain and vomiting continuing, a physician was called about noon. He prescribed calomel and more castor-oil, but everything given by mouth was rejected. On the second day several enemas were given, and, excepting a very small stool following the first enema, neither feces nor flatus passed. There had been no mucus nor blood passed per rectum. Pain, vomiting and absolute constipation had been continuous from the beginning of the illness. I was called on the evening of the fourth day and found that the child had died a few minutes before my arrival. I asked for an autopsy and the privilege was granted.

Autopsy.—Hippocratic facies marked; abdomen greatly distended. On opening the abdomen several greatly distended coils of small intestine presented. The intestine had lost its luster and was very dark in color; the mesenteric vessels were engorged. Folowing the small intestine downward, I found several collapsed coils massed in the ileocecal region. Here I found a band surrounding the intestine, above which the bowel was greatly distended, and below, it was collapsed. The appendix was in a normal condition. I tied off the cecum a short distance above the ileocecal junction and the ileum just above the constriction, removing the specimen. On examination it proved to be a Meckel's diverticulum, 2 inches in length, 3/4 inch in breadth, arising 14 inches from the ileocecal valve, with a terminal ligament attached to the mesentery directly opposite its base, forming a ring through which the ileum had become herniated.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1910," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 1789*)

MAMMARY SUBSTANCE—Armour.—Mammary Substance—Armour, consists of the mammary gland of the sheep freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A yellowish to orange colored powder, having a slight peculiar odor. Only partially soluble in water.

One part represents approximately 4½ parts of the fresh mammary gland of the sheep. It contains nucleoproteid which, when treated with dilute sulphuric acid, yields guanin. (S. Fränkel. Iverspitive Biochemie, p. 386). Upon incineration, it should not yield more than 9 per cent. ash.

Actions and Uses.—See Mammary Gland (N. N. R., 1910, p. 141).

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Mammary Substance Tablets-Armour.—Each tablet contains desiccated mammary substance 0.13 Gm. (2 grains).

Dose.—1 to 3 tablets three times a day.

DESICCATED SPLEEN—Armour. — Desiccated Spleen—Armour, consists of the spleen of the calf, freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A dark yellowish colored powder, having a peculiar odor. Partially soluble in water.

One part represents approximately 4¾ parts of the fresh spleen substance. It contains nuclein and iron. Upon incineration, it should yield not more than 7 per cent. ash.

Actions and Uses.—See Spleen (N. N. R., 1910, p. 144).

Dosage.—0.13 to 0.25 Gm. (2 to 4 grains) every three or four hours.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Spleen Tablets-Armour.—Each tablet contains desiccated spleen 0.065 Gm. (1 grain).

Dose.—1 to 3 tablets three times a day.

DESICCATED PAROTID GLAND—Armour. — Desiccated Parotid Gland—Armour, consists of the fresh parotid gland of the ox, freed from fat, cleaned, dried and powdered, without the addition of either preservative or diluent.

A yellowish colored powder, having a slight peculiar odor. Partially soluble in water.

One part represents approximately 5 parts of the fresh parotid gland of the ox. Upon incineration, it should yield not more than 7 per cent. ash.

Actions and Uses.—See Parotid Gland. (N. N. R., 1910, p. 142).

Dosage.—0.2 to 0.3 Gm. (3 to 5 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Parotid Tablets-Armour.—Each tablet contains desiccated parotid gland 0.13 Gm. (2 grains).

Dose.—1 to 2 tablets three times a day.

OVARIAN SUBSTANCE—Armour. — Ovarian Substance—Armour, consists of the entire fresh ovaries (including the corpora lutea) of the hog, cleaned, dried and powdered, without the addition of either preservative or diluent.

A yellowish colored powder having a peculiar odor. Partially soluble in water

One part represents approximately 6¾ parts of the fresh ovary of the hog. It contains gelatin, mucin, nuclein and the active constituent of the corpus luteum. Upon incineration, it should not yield more than 7 per cent. ash.

Actions and Uses.—See Ovary (N. N. R., 1910, p. 141).

Dosage.—0.06 to 0.2 Gm. (1 to 3 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or copyrighted.

Ovarian Substance Tablets-Armour.—Each tablet contains ovarian substance 0.13 Gm. (2 grains).

Dose.—1 to 2 tablets three times a day.

ORCHIC SUBSTANCE—Armour. — Orchic Substance—Armour, consists of the pulp from fresh ram testicles removed, dried and powdered, without the addition of preservative or diluent.

A light yellow powder, having a peculiar odor. Partly soluble in water.

One part represents approximately 7 parts of the fresh pulp from the ram testicle. Upon incineration, it should yield not more than 10 per cent. ash.

Actions and Uses.—See Testicle (N. N. R., 1910, p. 144).

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains) three times a day.

Manufactured by Armour & Co., Chicago. Not patented or copyrighted.

Orchic Substance Tablets-Armour.—Each tablet contains orchic substance 0.13 Gm. (2 grains).

Dose.—1 to 3 tablets three times a day.

(*To be continued*)

Therapeutics

RHEUMATIC FEVER

This acute disease, that is in all probability an acute infection, is so serious for the future of the individual who is unfortunate enough to have an attack, that the repeated discussion of its treatment is always in order. In spite of a pretty good understanding of its management and of the frequency of its complications, its successful treatment as to shortening the duration and preventing cardiac complications has hardly advanced at all in many years. An article by Dr. Frank S. Meara, in the *American Journal of the Medical Sciences*, March, 1910, presents modern ideas of the best management of acute inflammatory rheumatism.

Meara recalls to our minds that about one-half of all cases of rheumatism occur between the ages of 15 and 25 and about one-quarter between 25 and 35. He is right in believing that there are many undiagnosed attacks of rheumatism in young children, as many times a child may have rheumatic fever without swelling, heat, or redness in the joints. It is possible that many unexplained valvular lesions of the heart, discovered in later years and attributed to various other infections such as scarlet fever or diphtheria, may really date from an undiagnosed rheumatism. On the other hand, infants who are generally babies who are fed on other food than mothers' milk, are many times believed to have rheumatism. (On the other hand, infants, who are generally babies who are fed on other food than mothers' milk, are many times believed to have rheumatism) when scurvy is the trouble. Children from 3 years upward should be carefully examined for slight fever, for some joint localization, and for cardiac disturbances if they have been or are subject to what has long been termed "growing pains." It should be remembered that a so-called subacute arthritis can allow or cause endocarditis with subsequent valvular lesions. Hence anyone with an arthritis, with much fever or with little, should be placed at rest, unless the joint inflammation is considered a surgical process and the joint is surgically immobilized.

A patient with acute rheumatism should have as much fresh, pure air in his bedroom as is now believed necessary in all the acute infections. Dampness and stagnant air are especially prone to perpetuate the disease while sunlight is a distinct aid in shortening the duration of the attack of rheumatic fever.

Meara believes that many acutely ill patients, and perhaps especially rheumatic patients, are under-fed, and he presents strong arguments for the administration of more food. A patient with fever certainly uses more calories of food than a patient without fever under the same conditions of rest, and it should be carefully decided how much and what kind of food he needs to obtain these necessary calories. He estimates that a man weighing about 150 pounds gives off at rest 2,300 calories, while the same patient with fever, such as rheumatic fever, will give off perhaps, 2,900 calories. A patient who is put on a rigid milk diet of about two quarts a day would take in not far from 1,200 calories, or not nearly what he is giving off. Consequently, he must burn his own fat and later his other tissues, this to his immediate direct disadvantage, and later perhaps, to his positive injury. It is theoretically absurd and clinically wrong to expect or cause a patient to drink enough milk to satisfy the need for calories or heat units (a calorie is considered to represent the heat that is required to raise one kilogram of water from 0 to 1° C.); it is therefore advisable that to the amount of milk, whether a quart, three pints, or two quarts, that is deemed suitable for the individual patient, should be added either cream, or starch, or sugar to furnish more calories for the needs of the body. Meara suggests adding considerable milk sugar to the milk, as furnishing many calories and not rendering it as sweet as cane sugar. Cereal gruels, as well represented by thoroughly cooked oatmeal gruel, will furnish a large number of calories, and makes a pleasant and nutritious food. Meara estimates that each of the following furnish 100 calories, viz.: "An ordinary thick slice of white bread (1⅓ ounces); an average ball of butter (about ½ an ounce); an ordinary helping of boiled rice (4 ounces); a large serving of oatmeal or hominy; 1½ ounces of cream; and 3 teaspoonfuls of granulated sugar."

As the wave of under-feeding has gone all over the country with such intensity that most patients who are seriously ill are under-fed, it is with pleasure that we present these suggestions for a better feeding of the rheumatic patient. Although we do not understand the part that extra acidity may or may not play in rheumatism, it certainly seems unwise to give such patients meat or meat protein foods, but the above diet as suggested is certainly a wise one. If there is much indigestion from the extra amount of fats and starches present, and as it is known that two elements are at work to reduce the normal gastric acidity, *viz.*, the extra amount of fat and milk and the fever, it can do no harm to administer, after the milk foods, a few drops of dilute hydrochloric acid 3 or 4 times in 24 hours. Whether the infection generally enters the system through the tonsils or more frequently through the intestinal tract, has not been determined, but certain it is that the less indigestion the less irritants are absorbed into the blood, the less the temperature, the less headache, restlessness, sleeplessness, and kidney irritation. There is nothing in rheumatic fever that should prevent the patient from having toasted bread, with butter, if desired, more or less frequently, portions of oranges, lemonade, and some salt with his milk or cereals. It should also be remembered that a patient who is on a diet that contains no iron should certainly receive a daily small dose of it, as represented by one or two drops of the official tincture of iron, or by 0.10 to 0.20 gram (1½ to 3 grains) of reduced iron, sugar of iron, or carbonate of iron.

Especially important in many diseases, but we believe paramount in rheumatic fever, the bowels should be kept in perfect active condition. When the patient is first seen, he should be thoroughly purged with some cathartic; whether salts, calomel, or castor oil should be determined by the individual choice of the physician and the age of the patient. Even if the patient is eating but little food, there is, as Meara emphasizes, a normal excretion from the bowels. The lower intestine should certainly be considered as an excretory organ, and even the washing out of mucous secretion and watery and toxic exudates must benefit any patient. The laxative which shall be used after the first purging must be determined by individualizing; possibly many times an enema will be sufficient, but certainly thorough evacuation of the bowels always reduces the temperature and relieves the patient of secondary toxemia. However, as Meara well cautions, frequent catharsis with salines or other active drugs is inadvisable. Laxatives, such as typically represented by cascara or by aloin in some good combination, and enemas are better than frequent saline purging.

The specific treatment of this disease seems to be clinically proved to be salicylic acid in some form, and Meara believes that too little is often administered, and he consequently gives to an "adult of average weight 20 grains, in one or other form, every 2 hours for the first 24 hours during the waking period, or even 48 hours. In severe cases even 30 grains may be given for the first 2 or 3 doses. When the pain subsides, the dose may be cut down gradually to 15, to 10, or to 5 grains at a dose, how much and how rapidly depending on the progress of events or the signs of accumulation. The dose should be well-maintained at amounts of 10 grains every 2 hours until the active phases, as evidenced by fever, pain, and joint swelling, have passed." He then gives his patients from "5 to 10 grains, every 2 or 3 hours for a week or 10 days after the subsidence of acute symptoms, and from 4 to 6 weeks a lesser dose of 5 grains 3 or 4 times a day." Salicylism, *viz.*, roaring or singing in the ears even to deafness, full-headedness, dizziness, gastric disturbances, and perhaps skin eruptions, urticarial or erythematous in type, he does not consider of enough importance, ordinarily, to stop the use of the drug. Albuminuria and hematuria he thinks can be caused by the disease as well as possibly by the salicylates.

These doses seem large, and theoretically it would seem that if a patient were saturated with the drug enough for the above symptoms, that the amount given might be reduced to just enough not to cause these symptoms. If, as he suggests, salicylic acid combats the germ of rheumatic fever as quinin does the germ of malaria, it might be best to give the salicylate in a large overwhelming dose once, perhaps, every 24 hours, preventing the head disturbance with bromids, in the same manner as quinin is best administered in malarial fever. It should be emphasized that when large doses of salicylic acid or sodium salicylate are administered, synthetic preparations should not be used. Salol, phenyl salicylate, should never be pushed in any such method as

suggested, as it carries with it a phenol element that is toxic.

Meara does not state, but it is quite possible that part of the great good accomplished by salicylates is due to the fact that they cause a great amount of perspiration and therefore a large elimination by the skin of possibly the products of the disease. This can sometimes be accomplished perfectly by other methods. The writer of this editorial has frequently seen acute rheumatism almost aborted and certainly shortened by a general "body-bake," the hot-air treatment. Certainly, whenever it is possible, the body bake presents a most satisfactory treatment of rheumatism. Whatever the treatment, the frequent sponging of the body with hot water to remove the profuse, sour perspiration and the salts and toxins excreted by the skin, is physiologic as well as esthetic. Such sponging should be done at least twice a day.

Whatever the treatment, a patient who is in pain from rheumatism has a right to have it stopped, and a small amount of morphin is better than a large amount of a coal-tar product. This is always true when pain is constantly recurrent. The repeated administration of any coal-tar preparation is inadvisable in acute conditions. It is often not necessary to give large doses of morphin, and as Meara suggests, 1/8 or even 1/16 gr., hypodermatically, conjointly with the administration of salicylic acid will often give relief. This should be repeated, when the pain is severe, as often as it is needed. As Meara says, the value of potassium iodid and colchicum in acute rheumatism is probably mythical.

Whether alkalies are of much value or not is still undecided. Such treatment has its believers and disbelievers. A little extra alkali administered at such times (especially if antacid) as not to interfere with digestion can do no harm and may do considerable good. Meara suggests bicarbonate of sodium in amount sufficient to cause the urine to become alkaline. Potassium citrate would seem to be the better drug, as rendering the urine more quickly alkaline and causing less disturbance of the stomach and digestion.

The care of the individual joints which are inflamed cannot be dogmatically dictated. The joint and limb should be placed in the position that gives the patient the most comfort. If several joints of a limb are involved, and especially if there tends to be more or less troublesome muscle contractions, or an inadvertent movement causes excruciating pain, a splint may be devised to keep the limb at rest. Whether cold applications or warm applications are the best for other joints, depends on the feelings of the patient. Too continuous cold is perhaps best not applied, as tending so to deteriorate the circulation of the part as possibly to do harm. Generally, warm, moist applications, and perhaps nothing better than alcohol fomentations (one part of alcohol to 3 or 4 parts of warm water; a towel or napkin soaked in this and then wrung out just sufficiently not to drip, and this wound around the joint and then covered with oil silk) will probably give as much comfort as any application. These should be changed as frequently as they are cold. Sometimes dry cotton around the joint causes as much comfort as any application. The official methyl salicylate may be applied, or oil of wintergreen, but probably neither is more valuable than the above alcohol dressing.

Later when the acute inflammation in the joint has subsided, but the inflammation tends to persist in certain joints, ichthyol applications are much used and seem at times to be efficient in hastening the absorption of exudates. Ichthyol may be used in from 10 to 25 per cent. mixture with glycerin, or with olive or other bland oil. When there is acute rheumatic inflammation in the joint, counterirritation is contraindicated, but when a subacute inflammation persists, either fly blisters or the actual cautery are certainly advisable, and as Meara says, the cautery is generally the best treatment and is best applied in striæ around and over the joint, not cauterizing deeply enough to blister, and repeated once in 3 or 4 days. To prevent ankylosis or stiffening of joints that have been immobilized once every 5 days, they should be removed from the splints and slight motion made, when such motion is not severely painful.

If cardiac inflammation occurs and if the heart's action is impaired as shown by irregularity or increased rapidity of the heart beat, Meara believes, as is the consensus of opinion, that salicylates should be stopped. If there is no disturbance of the heart beat Meara does not believe that inflammation of it, though positively evident from auscultation, necessarily contraindicates the use of salicylates.

Anemia which so often follows rheumatism is perhaps frequently due to abstinence from meat and the prolonged administration of salicylates and alkalies. The constant administration of iron throughout the disease and a not too long use of salicylates and alkalies will generally prevent this condition.

The convalescence following rheumatism should be prolonged until the patient is thoroughly able to attend to his work. If there is a cardiac complication, such a recommendation is positively necessary. It can never be determined how much endocardial inflammation was present, how much valvular inflammation and thickening will be permanent, or how perfect the repair of the heart may be. Also, even when auscultatory evidence of cardiac complication has not been discovered, there may have been some inflammation which should call for prolonged rest. The administration of small doses of an iodid, best sodium iodid, from 0.10 to 0.20 gram (from 1½ to 3 grains) three times a day, is often advisable. Such treatment has frequently seemed to hasten or aid in the complete recovery of endocarditis. Not every endocarditis from rheumatism leaves valvular lesions.

Meat does not cause rheumatism, and prolonged abstinence from meat is generally inadvisable, still but a small amount of purin foods should be taken for some time. Eggs, green vegetables, and cereals should constitute the main food; later, fish or meat once a day may be allowed.

It has been urged, to prevent recurrences of rheumatism in those who have had it, that a week of salicylic acid treatment should be given once a month for a few months and then once in six months for several times. General prophylaxis is accomplished by the same old story now so constantly preached, and referred to by Meara. There should be plenty of warm water bathing; people should not sleep in ill-ventilated, damp, musty rooms; the bed clothing should be daily aired. Such clothing should be worn as is suitable for the climate, season of the year, environment and occupation. Overweighting of the body with unnecessary clothing, causing profuse, sticky perspiration that remains as a wet poultice over the body, will not only not prevent rheumatism, but may even be a promoting cause of it, and as Meara states, "sore throats, stiff necks, and 'growing pains' in children" should not be neglected.

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[For other information see second page following reading matter]

SATURDAY, JUNE 4, 1910

ROBERT KOCH AND HIS ACHIEVEMENTS

Robert Koch, once a country doctor, the discoverer of the bacillus of tuberculosis, and with the immortal Pasteur, the founder of bacteriology, and of the germ theory of infectious diseases, died May 27, 1910. In what better way can we honor the memory of this preeminent man and benefactor of the human race, at this time and in this place, than by recalling, even if only in an incomplete and fragmentary fashion, some of the principal results of his life and work so that we may realize more fully than perhaps is the case in general what the world owes to him!

Koch was born Dec. 11, 1843, in Klausthal, Prussia. In 1862, having finished the gymnasium, he began the study of medicine in the University of Göttingen. On the faculty at that time were Friedrich Woehler, who first produced uric acid synthetically; the physiologist, Wagner, who discovered the germinal area in the ovum; and Jacob Henle, the great anatomist, who strove to unify anatomy, pathology and physiology, and who made important discoveries in microscopic anatomy. It has been suggested that probably Henle especially influenced Koch, because he was one of the first who advanced the idea that "contagium" is endowed with individual life and reproduces itself, growing by assimilation of organic material as it lives parasitically in the diseased body; he held that the as yet unseen parasites would be found to be vegetable in their nature.

While still a student Koch published the results of two investigations, one concerning the presence of ganglion cells in the nerves of the uterus, and another dealing with the question of the development of succinic acid in the animal body. In 1866 he received the degree of Doctor of Medicine, passed the state examination, and was now for a short time assistant physician in the general hospital at Hamburg; then he entered general practice in Langenhagen in Hanover. At this time he seriously considered the question of coming to this country, where two of his brothers had already established themselves, and of taking up the practice of medicine in St. Louis. He soon moved to a small place, Rackwitz, in Posen, and in 1872 he became *Kreisphysikus* or district physician in Wollstein, where he remained until he was called to the Imperial Board of Health in Berlin, in 1880. During this time he was a busy country doctor, and yet he, the unknown man, was now carrying on investigations on anthrax and on traumatic infective diseases the results of which at once placed him in the front rank of investigators and made him a leader in the new science of bacteriology.

BACTERIOLOGY BEFORE KOCH AND THE EFFECT OF HIS FIRST EXPERIMENTS

In order to understand clearly Koch's rôle in the development of bacteriology, it is necessary to cast a glance at the state of the knowledge of the relation of microbes to disease as it was in the early seventies. It is true that Pasteur had shown that spontaneous generation was a chimera and had published epochal researches which, through Lister, gave us the life-saving boon of antiseptic treatment of wounds; and yet the road had not been wholly opened which bacteriologic investigation was to take in the near future, the road which has led to the modern discoveries in the causation of infectious diseases, their treatment and prevention. In this then virgin field Koch did pioneer service and cultivated it fruitfully to the end. At the time in question the connection between bacteria and infectious diseases seemed on the whole obscure and uncertain. There was no lack of advocates of the germ theory of infection; the great Billroth was trying ably to establish his *Coccobacteria septica* as the cause of wound infections; and Klebs had described his *Microsporon septicum* in purulent septic wounds, and introduced his fractional method of cultivation, but the actual cause of any of these conditions had not been established in a wholly satisfactory manner. The question whether the bacteria found in certain diseases were the cause of the disease or merely a consequence had not been settled. Many apparently contradictory results were being recorded and it is no wonder that doubt would arise in the minds of many as to the value of the germ theory of disease, when we consider that the results of some investigators indicated that the same disease might be caused by different bacteria and that the same bacteria might cause different diseases. Nägeli taught that the same bacterium was capable of existing in numerous forms with different functional powers, and as late as 1877 he wrote: "I have for ten years examined thousands of different forms of bacteria, and I have not yet seen any absolute necessity for dividing them even into two distinct species." No final solution of the difficulties in the way of further progress was offered until Koch appeared and supplied the methods and indicated the experiments that were necessary to furnish a thoroughly satisfactory proof of the parasitic nature of an infectious disease.

In 1876 he published his work on anthrax. Pollender and others had found rods in the blood of animals with anthrax, and the disease had been produced experimentally by inoculation with blood containing such rods; but it was still, at least in some places, a disputed ques-

tion whether the rods were living things or not and whether they were the cause of the disease. Koch settled the first question by observing directly under the microscope in a hollow ground slide that if a trace of infected blood was mixed with broth, the rods in it would develop into long threads which under certain conditions would break up into minute glistening round bodies that in turn would give rise to rods like those originally found in the blood. By actual experiment, he showed conclusively that the rods as well as the rounded bodies, both of which he interpreted to be stages in the development of a single micro-organism, could cause anthrax. It is narrated that at this point Koch went to Breslau, bringing with him his microscope and white mice, for the purpose of repeating the experiments in the presence of Ferdinand Cohn, the botanist, Cohnheim, Weigert and others. The demonstration made a profound impression. Cohnheim is said to have told the workers in his laboratory:

"Let everything stand as it is and go over to Koch; this man has made a great discovery which in its simplicity and exactness of method deserves only the more admiration because he is cut off from all scientific connections and has himself worked out everything to absolute completion. There is nothing at all more to do. I regard this as a great discovery in the field of micro-organisms and I believe that Koch will surprise and outdistance us all again with further discoveries."

ROBERT KOCH, 1843—1910

Two years later appeared the classical investigations on traumatic infective diseases, in which Koch showed conclusively by cultivation in the body of animals that there are specific, pathogenic bacteria which cause sharply defined transferable diseases; that pathogenic power is not a general or common characteristic of bacteria, of which there are many kinds, which have distinctive peculiarities; that bacteria of even similar form may differ widely in biologic properties. The appearance of this work marks the definite beginning of the era of exact bacteriologic-etiologic investigation.

Having solved the general question whether bacteria produce disease, Koch now made special preparations for the search for the special bacteria of individual diseases. He unremittingly attempted to improve the means "for the discovery of pathogenic bacteria in animal tissues, because he could not get rid of the idea that the doubtful results of investigations with regard to the parasites of infectious diseases might have their foundation in the incompleteness of the methods used." He greatly advanced the technic, especially by the introduction of Abbé's condenser, by the use of the homogeneous oil immersion lens and of the recently introduced anilin dyes for staining.

In 1879 Koch was called to Breslau as *Gerichtsarzt*, but evidently this work did not suit him, as he soon returned to Wollstein, remaining here only a few months, however, before he was called to the Imperial Board of Health in Berlin in 1880. Loeffler, who was Koch's first assistant in Berlin, gives the credit of having fully recognized Koch's genius and of giving it opportunity for full development to Struck, the first director of the board of health. Koch, with Loeffler and Gaffky as assistants, began his work in Berlin, in a small room with one window, but before long they moved into a larger room with three windows. The investigations on anthrax were continued; photomicrography and new cultural methods were developed; the current teachings in regard to disinfection were completely overturned, and new and improved methods for testing disinfectants were devised; corrosive sublimate and live steam as disinfectants were introduced. Now he also worked out the so-called plate method for obtaining pure cultures of bacteria from single organisms; by this simple method, which is one of the corner-stones of practical bacteriology, a ready and invaluable means was furnished for the isolation of a single bacterial species or strain from a mixture of many. When Koch demonstrated his transparent solid media and plate method at the Congress of Hygiene in London, in 1881, Pasteur exclaimed: "C'est un grand progrès"!

KOCH'S WORK ON TUBERCULOSIS

In the meantime Koch had begun his work on tuberculosis.

It may be noted that tuberculosis had long been regarded as an infectious disease; that Klencke in 1843 produced tuberculosis in rabbits by the injection of human tuberculous material into the veins; that Villemin

a little later, by numerous systematic experiments, became the founder of the study of experimental tuberculosis; that Cohnheim and Salomonsen more recently, by inoculation of rabbits, in the anterior chamber of the eye, where they could follow the development of the tubercles step by step, had shown that various tuberculous substances contain the same infective material. Because of these results and because of his observations on anthrax and on wound infections, Koch had reached the firm conviction that tuberculosis also is a parasitic disease, and so he now proceeded with untiring patience and skill to search for the parasite. It soon became clear that the agent of tuberculosis differed from other bacteria and that different staining methods would be necessary to reveal its presence. Koch's own words give the best idea of the progress of the work:

I commenced my investigations with materials in which the infectious agent surely would be present, as for instance, freshly developed gray tubercles in the lungs of animals which were killed three to four weeks after inoculation. Sections were made from lungs hardened in alcohol and examined with the best methods for the demonstration of bacteria. Gray tubercles were also crushed, spread out on cover-glasses, dried, and then examined for the presence of micro-organisms. All efforts to find bacteria or other micro-organisms in these preparations were without result. As it had been found in some of the earlier experiments that the addition of alkalies to the staining solutions in certain cases proved of special advantage in staining the bacteria deeply and differently from the surrounding tissue, this method was next used. Of the anilin dyes methylene blue permits the addition of the largest amount of alkali, and hence so much potassium hydrate was added to the watery solution of this dye as could be done without producing a precipitate. One cubic centimeter of a concentrated alcoholic methylene blue solution was mixed with 200 c.c. of distilled water and after repeated shaking 0.2 c.c. of potassium hydrate was added. When cover-glass preparations were treated for twenty-four hours with this staining solution, very fine rod-shaped forms were seen in the tuberculous material, which, as shown by further investigation, may multiply and form spores, and consequently belong to the same group of organisms as the anthrax bacillus. In sections it proved much more difficult to recognize these bacilli between the densely crowded nuclei and masses of detritus; consequently it was tried by the method of Weigert, who succeeded in staining anthrax bacilli in a different color from the surrounding tissue elements, to make the tubercle bacilli more distinctly visible by differential staining. This purpose was achieved by the use of a watery solution of vesuvin with which the blue stain cover-glass preparations and sections were treated until they appeared in a pure brown color to the naked eye. Microscopic examination now showed that only the previously blue-stained cell nuclei and their disintegration products had taken on the brown color, but that the tubercle bacilli retained a beautiful blue color, in consequence of which they were clearly differentiated from their surroundings, so that even in the densely crowded nuclear masses they were easily recognized. . . .

The bacteria have a rod shape and consequently belong to the group of bacilli. They are very thin and from ¼ to ½ as long as the diameter of a red blood corpuscle, occasionally reaching a greater length up to the diameter of a corpuscle. They show in form and size striking similarity with the lepra bacilli. However, they differ from the latter in that they are a little more slender and appear pointed at the ends. And the lepra bacilli take the stain with Weigert's nuclear staining method, which the tubercle bacilli absolutely do not.

The next problem, to obtain the bacilli in pure culture, free from all the constituents of the diseased body, was brilliantly solved by the use of blood serum solidified at 65 to 70 C., on which the bacilli grew freely, and by the inoculations of animals to determine whether the pure cultures actually consisted of the tuberculosis parasite; he secured positive results in every instance.

The first announcement of this wonderful and epochal discovery was made March 24, 1882, in the Berlin Physiologic Society. The communication bore the title "On Tuberculosis." As Koch quietly, soberly and without apparent emotion presented the details of his discovery, everyone in the large audience felt the tremendous importance of the occasion; when he finished no one spoke and the session closed without discussion. In print this classical communication, which is one of the most important in the literature of medicine, occupies about two pages like these. The work they record will always excite special admiration because of the completeness of the proof that tuberculosis is caused by the bacillus which Koch found. Not a stone is missing in the great structure.

THE DISCOVERY OF THE COMMA BACILLUS

Continuation of work on tuberculosis was soon prevented because in 1883 Koch was sent to Egypt to study cholera, which threatened to invade Europe. As the Egyptian epidemic soon subsided, it became necessary to proceed to India, where he finally completed his discovery, in the characteristic choleraic intestinal contents, of the comma bacillus, which he brought home with him in pure culture. In the course of his studies of cholera he reached a clear notion of the mode of dissemination of this disease, which proved to be of the utmost importance in the development of practical preventive measures; he recognized that the patient is the principal source and carrier of the germs and that the secret of prevention of epidemics lies in prompt recognition of the first cases.

While in Egypt he made important observations on Egyptian conjunctivitis (Koch-Weeks bacillus) and on amebic dysentery. On his return in 1884, he received 100,000 marks from the German government. In 1885 he was appointed professor in the University of Berlin, and director of the newly established Hygienic Institute. Long before this time his laboratory was thronged with physicians from many countries, who wished to learn bacteriologic methods. The number of students now increased greatly and Koch's methods were carried to all parts of the world.

Of the work of the many assistants and pupils who have reached eminence and made great discoveries no mention even by name can be made at this time.

THE DISCOVERY OF TUBERCULIN

In the first communication on tuberculosis Koch pointed out that the multiplication of the bacillus is limited to the living body and that the spread of the disease is due to discharges from tuberculous persons and animals, especially cattle. Koch devoted years to the search for substances which would destroy the bacilli in the infected body, but in vain. He then sought to

cure tuberculosis by means of substances derived from cultures of tubercle bacilli in glycerin broth, and in 1890, at the Tenth International Medical Congress in Berlin, he presented a communication concerning tuberculin ("old tuberculin"), which created the greatest excitement. Koch claimed for this substance that it was an excellent means of diagnosis of tuberculosis in animals as well as human beings, and that it also would prove to be, so he hoped, a means of cure in the early stages of tuberculosis. The expectations in regard to the curative power of tuberculin were carried beyond reason, not only by physicians, but by the general public, and when it was found that these expectations were not realized, there followed unjust condemnation not only of the remedy but of the discoverer himself. In 1896 Koch brought forward his "new tuberculin." Experience has now shown that Koch was right in his claim that tuberculin is a reliable diagnostic means and, according to the opinions of numerous conservative physicians, it also possesses, when properly administered, a definite healing power in certain forms of tuberculosis. In connection with the experiments on the immunizing action of tuberculin investigations were carried on in his institute on immunization with other substances, which eventually led to the marvelous discovery by Behring of diphtheria antitoxin and to the helpful work of Ehrlich on the principles of immunity.

INVESTIGATIONS ON RINDERPEST, SURRA, BUBONIC PLAGUE, ETC.

In 1891 Koch was appointed director of the newly founded Institute for Infectious Diseases in Berlin.

In 1896, he was asked to go to Africa to study rinderpest and, while he did not discover the cause of this disease, he did find a method by which the animals might be immunized, namely, by the injection of the bile of animals that have died from the disease. Now followed investigations by Koch and his assistants of bubonic plague in India, as well as in Africa; of surra, a tropical disease of cattle and horses caused by a trypanosome, which is transmitted by the much-feared tsetse fly; and of Texas fever, in which case he confirmed the discovery of Theobald Smith that the causative agent *(Piroplasma bovis)* is carried by a tick. Koch's sojourn in Africa led to highly important studies of malaria. The discovery that the malarial parasites develop in mosquitoes and are inoculated into human beings by their bite was made first by Ronald Ross; the independent investigations of Koch led to exactly the same results and filled certain gaps in the researches of Ross. Koch's discovery of the frequency of malarial infection in native children is most important, because of the light thus thrown on the source of tropical malarial diseases and on immunity in malaria. Koch also introduced a new idea of prevention of malaria in the tropics, namely, by the preventive administration of quinin to the people in malarial districts.

DISCOVERY OF THE LACK OF IDENTITY OF HUMAN AND BOVINE TUBERCULOSIS

During these years Koch continued, so far as possible, the work on tuberculosis, and in 1901 he announced that he had reached the conclusion that human and bovine tuberculosis were not identical. He had found that human tuberculosis, as a rule, could not be transmitted to cattle, which are highly susceptible to bovine tuberculosis, and that there existed noteworthy distinctions between the bacilli of the two forms of tuberculosis. He consequently urged the view that bovine tuberculosis plays a minor rôle in the development of tuberculosis in man and emphasized again, and strongly, that the chief danger to man is the human disease. This pronouncement roused a storm of opposition and led to extensive investigations. At present it seems as if his claim that the bacilli of human tuberculosis have but little infective power for cattle may be regarded as established; it also appears to be agreed that certain definite differences exist between the bacilli of bovine and human tuberculosis; but the difficult and much-discussed question in regard to the frequency of transmission of bovine tuberculosis to human beings still awaits a final answer. As the matter now stands it seems that tubercle bacilli of the bovine type may be found in human beings and probably oftener than Koch believed in 1901 to be the case; the comparatively small number of cases, however, in which such bacilli have been found, as well as the frequency of human tuberculosis in regions where bovine tuberculosis is absent, or where the infection of human beings from this source may be excluded, nevertheless appear to support Koch's conception of the dominating importance of infection from person to person in the spread of human tuberculosis.

PREVENTION OF TYPHOID FEVER AND OTHER DISEASES

Koch's studies on typhoid fever have led to a change in the conception of the mode of transmission and to new methods for its suppression. The key to this method is exact and early diagnosis in every case. Every person who shelters the bacillus is a source of danger to healthy persons in his environment and consequently he must be placed under conditions that obviate this danger. This is the same principle which Koch applied with such success to the prevention of cholera in Germany, which he recommended for the suppression of malaria and sleeping-sickness, and which he believed eventually would be applied to tuberculosis, syphilis and other infectious diseases.

In 1904 Koch studied various protozoan diseases in German East Africa, and in 1906 he visited the interior of Africa, for the purpose of studying sleeping-sickness and the prevention of its ravages. In 1905 he received the Nobel prize in medicine.

He was active almost to the end. In 1908 he visited the United States and took an active and effective part in the International Congress on Tuberculosis

at Washington, especially in discussions and conferences concerning the relation of human and bovine tuberculosis, a problem on which he proposed to work on his return to Berlin.

THE WORLD'S DEBT TO KOCH

But death has claimed the master and the world has lost its leader in the struggle against infection. Endowed with a mind of the first order, and animated, beneath a quiet, impassive and meditative exterior, by a spirit of unceasing but wonderfully well-regulated activity, which drove him on as by an internal fire from achievement to achievement, he made his own age preeminent over all the ages that have gone before for advances in the exact knowledge of the causation and prevention of infectious diseases. Rarely, if ever, have so many discoveries of such decisive importance to mankind emanated from the activities of one person; yet he served with all humility of mind. He simply tried to do his duty, being, as he said, fortunate to find sometimes the gold among the gravel of the road which is open to everyone. When we consider the advancement medicine owes to Robert Koch and the endless and inestimable blessing which has come to mankind through his work and life, there comes an overpowering sense of admiration, reverence and gratitude.

THE AMERICAN MEDICAL ASSOCIATION CALLED A TRUST

"Trust" is a good word to juggle with nowadays, for to most people it conjures up visions of extortion, robbery and general oppression. When, therefore, any organization is to be attacked and there are no tangible charges to be preferred against it, it is dubbed a "trust" and by that very token is damned in the premises. In this manner the American Medical Association becomes the "doctors' trust" according to the "National League for Medical Freedom"—and other organizations with equally high-sounding and misleading names, fathered by the "patent medicine" interests. Not that the term originated with this widely advertised "league," although some fifteen or sixteen years ago the president of this "league" attacked the medical profession in a magazine article on "Medical Monopoly." The representatives and mouthpieces of the proprietary interests have long employed it; notably Strong through his two journals, the *National Druggist* and the *Medical Brief*, and Engelhard through his journals, the *Western Druggist* and the *Medical Standard*. As the proprietors of these publications are found among the *personnel* of the "league" it is natural that this latest "patent medicine" organization should have appropriated a figure of speech possessing such magnificent potentialities.

To the proprietary men the American Medical Association is a trust because, they allege, it has attempted to dictate to physicians what medicinal preparations they shall and shall not use; or to put it more baldly, because the fraudulency and worthlessness of various proprietary products have been made clear in THE JOURNAL. Others have accused the Association of being a trust because it has attempted to raise the standard of medical education and thereby to "control the output of medical students." But the reason advanced by the "league" is a brand-new one, invented, no doubt, in the hope that it will reach the public's heart through its most direct route—the purse. The American Medical Association is a trust, we are told, because it has established a schedule of prices by which all its members are bound. The president of the "league" is reported as saying:

> "The [American Medical] Association now fixes the prices charged by physicians in America."

More specifically the "league's" vice-president puts it:

> "The American Medical Association has secured the adoption of its scale of prices throughout the country. . . ."

To such a charge there is but one answer and that an all-sufficient one, *viz.*, that it is a falsehood and a stupid one at that. Every physician, and every layman who has ever investigated the matter, knows that as a matter of fact the American Medical Association has never even suggested that the "price" of medical service be "fixed," but on the contrary, has positively discouraged such a proposition. The recommendation in the Principles of Medical Ethics that individual physicians in any locality should adopt some general rules "relative to the minimum pecuniary acknowledgement from their patients," has been taken and an attempt made to read into it a meaning never intended and certainly never accepted. What the attitude of the Association is on this point is well set forth in the standard "Constitution and By-Laws for County Societies" prepared by a committee of the American Medical Association and recommended and very generally adopted by various county societies:

> "Sec. 3.—Agreements and schedules of fees shall not be made by this society. . . ."

And yet the falsehood is blazoned forth, with a prodigal disregard for the expense entailed, by means of display advertisements and "interviews," that the American Medical Association "fixes the price" of medical service. Of course, the "league" had to have some shibboleth and the accusation that the American Medical Association is a "trust" is an untruth that may be counted on to arouse the interest of the unthinking and to give a more or less plausible excuse for the "league's" existence. How absurdly mendacious the accusation is the medical profession already knows and the public will not be long in learning.

Again we say: The publicity which the "patent medicine" interests are giving to the American Medical Association through this "league" is welcomed. The more the people know about the Association and the work it is doing, the keener the investigation made of its

methods and aims, the better it will be not only for the American Medical Association and the medical profession of the country, but also, more important than all, for the public itself.

POISONING BY SUBLIMATE TABLETS

The recent publication[1] in THE JOURNAL of reports of several instances of fatal poisoning from the introduction of bichlorid of mercury tablets into the vagina has aroused some discussion of the growing danger from the promiscuous sale and increasing use of these convenient antiseptic preparations. In this connection the recent review of the cases of sublimate poisoning which have occurred in the German Empire during the years 1897 to 1905,[2] will undoubtedly have much interest.

By official action all cases of poisoning with bichlorid of mercury since 1897 have been reported to the governmental health office, and from the reports submitted the above-mentioned review has been compiled. It will undoubtedly cause some surprise that in the entire German Empire there occurred during nine years but one hundred and one cases of poisoning with bichlorid of mercury dispensed in tablet form, and twenty-three from sublimate sold as the powder or crystals, and this, in spite of the known prevalence of suicide in that country. Of the one hundred and one instances of poisoning with bichlorid tablets, no less than ninety-two were attempts at suicide, the other nine being accidental poisonings; there was no instance of the use of mercury for the purpose of murder, nor is there any record of poisoning from the introduction of tablets into the vagina as has been mentioned above. The mortality was not so high as might have been anticipated, fifty-eight persons dying while forty-three recovered, in spite of the fact that most of these were cases of suicide, in which therapeutic intervention is not usually so prompt as in accidental poisoning. The greater inclination of women to commit suicide by poison rather than by more violent means is brought out by these tables, for in thirty-four cases in which the sex is recorded twenty-five women and but nine men used bichlorid of mercury with suicidal intent.

Compared with the tablets, bichlorid of mercury in the unmodified form is a rare source of serious poisoning, however often it may lead to slight local or constitutional symptoms in persons using it frequently. There were but twenty-three cases of poisoning by this form of mercury during the same nine years. Of these, sixteen were suicidal and six accidental, including under the latter two cases in which fatal poisoning followed injections of sublimate solution for the purpose of producing abortion. In any case it is evident that bichlorid of mercury as compared with compound solution of cresol, phenol, and even phosphorus, is not a popular poison for suicidal purposes in Germany. During the nine years under consideration there were reported in Prussia alone 2,895 suicides by poison, of which but thirty-six or 1.2 per cent. were from antiseptic tablets containing sublimate.

We have a distinct impression that poisoning by this agent, especially accidental poisoning, is much more frequent in this country than these figures show it to be in Germany; unfortunately there is no way of learning the exact conditions in America because of our laxity in the matter of vital statistics. There is every reason why we should have more poisonings by bichlorid tablets than the Germans have, for here almost anyone can secure a bottle of them at any time, and almost every household has a partly used bottle in some cupboard inviting mistaken administration by self-drugging adults, or accidental assimilation by inquisitive children. In Germany, however, it is not so easy to buy or unintentionally to poison oneself with bichlorid tablets, because of the enforcement of rigid laws regulating their sale. Among the legal provisions are the following: For medical purposes sublimate tablets can be sold only by apothecaries, and only on the presentation of a dated and signed order from a regular physician; each tablet must contain a soluble red anilin dye, and it must be enclosed separately in a black paper on which is printed the word "poison" in white letters, in addition to the usual regulations concerning the marking of the containers.

With such regulations in force it is easily understood why only one accidental poisoning occurs annually in Germany from this source, and that a suicidally inclined person will have some trouble in securing this particular means of escape from life's cares. As a matter of fact, a remarkably large proportion of those who did take bichlorid with suicidal intent were nurses, midwives, servants of doctors, and others who could procure the antiseptic tablets readily—a fact which shows how efficient the German laws are in keeping this particular poison from being improperly used by the general public. The conclusion reached by the official who investigated these statistics for the governmental health officers is that the existing regulations have proved themselves so efficient that there is no need for any further restriction being placed on the use and sale of bichlorid of mercury tablets, in view of their well-established usefulness. It is a pity that we have no available statistics in this country for a similar study; it is reasonably certain that the inevitable conclusion would be that in this country there is urgent need for the adoption and enforcement of regulations similar to those which have so effectively protected the German public.

1. Lankford, Burnley: A Peculiar Case of Mercurial Poisoning, THE JOURNAL A. M. A., April 9, 1910, p. 1203; Sharp, W. H.: The Careless and Criminal Use of the Mercuric Chlorid Tablet, THE JOURNAL A. M. A., April 30, 1910, p. 1458; Patek, A. J.: Poisoning by Mercuric Chlorid Through Vaginal Douches, THE JOURNAL A. M. A., June 4, 1910 (this issue), p. 1867.

2. Franz, F.: Die im Deutschen Reiche während der Jahre, 1897-1905, amtlich gemeldeten Vergiftungen mit Sublimat, insbesondere mit Sublimatpastillen, Arb. a. d. k. Gsndhsamte, 1910, xxxiv, 1.

CANDOR FROM AN ANTIVIVISECTIONIST—AN APPRECIATION

Within the past few months the *Ladies' Home Journal* has been publishing papers giving both sides of public questions. These articles have been written in each case by men who were competent to discuss from their respective standpoints the subjects dealt with. A few months ago an article appeared, written by the president of the American Antivivisection Society, the Rev. Floyd Tompkins, giving the antivivisectionists' views on animal experimentation. In the next issue of the *Ladies' Home Journal* the other side of the question was admirably presented by Dr. W. W. Keen. It now appears that Dr. Keen's article has impressed even the antivivisectionists with the weakness of their own arguments as presented by their president. At least, that is the impression obtained by reading the letters sent by Mrs. Caroline Earle White, editor of the official organ of the "antis," the *Journal of Zoöphily*, to the editor of the *Ladies' Home Journal* and reproduced in the former publication. Mrs. White did not like the Rev. Dr. Tompkins' presentation of her side of the subject and opines that "we might have arranged something better for our cause."! She therefore wrote three letters to the *Ladies' Home Journal* asking that more space be allowed to "refute" the arguments of Dr. Keen. She also apparently intimated that Dr. Keen had an advantage over the Rev. Dr. Tompkins, inasmuch as the latter's article appeared first and he, therefore, "could not possibly reply to" Dr. Keen's arguments. After being told that neither article could be an "answer" to the other as neither writer had any knowledge of what the other would say, and furthermore, that two articles on any one subject were all that the editor of the *Ladies' Home Journal* intended publishing, Mrs. White then charged the *Ladies' Home Journal* with unfairness in its choice of a writer. Mrs. White asserts that the Rev. Dr. Tompkins, the president of the Antivivisection Society, "though an excellent man, is very slightly acquainted with the subject" and "he makes no claims to having studied thoroughly the question of vivisection."! While, from a study of antivivisection literature, we have always believed, and occasionally stated, that the members of the organization to which Mrs. White and the Rev. Dr. Tompkins belong know little or nothing about the subject of animal experimentation, we had hardly expected to have the editor of the antivivisectionists' official organ frankly admit the impeachment, especially as directed against the president of that organization. Such an exhibition of candor coming from the representative of a class that has distinguished itself in the past by the circulation of the most virulent form of fiction—not to use a "shorter and uglier" term—is as refreshing as it is rare. As to the pique displayed by the editor of the *Journal of Zoöphily*, we may be excused for suggesting that an unfair fighter is never a "good loser."

THE ST. LOUIS SESSION

Arrangements have been completed for the annual session in St. Louis June 7 to 10, and the indications are that it will be one of the most successful meetings yet held. Interest grows yearly in the work of the Association and on account of the interesting program arranged, the central location, the abundant railroad facilities, the experience of St. Louis in handling conventions, the interest and energy of the Committee on Arrangements, and the well-known hospitality of the profession and the people of that city, an attendance equaling the high-water mark of the Chicago meeting of 1908 may be expected.

Attention is again called to THE JOURNAL of May 7, the St. Louis Number, which contains full information about railroads, hotels, meeting-places, clinics, hospitals, points of interest about the city, entertainments, the scientific and commercial exhibits, information bureaus, etc. The special information bureau to be established by the Committee on Arrangements at the Union Station will be ready to guide incoming visitors; and the official program, guide-books and printed information about entertainments, etc., will be given at the general registration bureau in the Coliseum to members when they register.

THE PRESIDENT AND THE SECTION OFFICERS

In this issue are pictures of the President-Elect of the American Medical Association and also of those of the section officers whose pictures have not already appeared in THE JOURNAL. They are not only a good-looking body of men, but they are thoroughly representative of the highest type of physicians and scientists in their respective special fields. In honoring them by selecting them from so great a body of splendid men to preside over the sections, the American Medical Association is also honoring itself and will be indebted to them and to the rest of the section officers for the credit they will reflect on it by their efforts in making the Sixty-First Annual Session a scientific success. Honors have come to all of them before, either in the way of office in the scientific organizations with which they are connected, or in the way of recognition of advanced and original scientific or administrative work in their special fields. But the present positions to which they have been called must be to them gratifying evidence of appreciation and as placing the seal of approval on their efforts as physicians and scientists by the great representative national body of physicians. The President-Elect, Dr. Welch, recently received a more intimate and personal tribute in the splendid testimonial dinner tendered him by his friends and pupils in Baltimore, but to be made the head of the American Medical Association was a fitting climax to his great and honored career as a man, a physician and a scientist.

Medical News

ILLINOIS

Directors Reduced.—At a meeting of the executive committee of the Chicago-Winfield Tuberculosis Sanatorium, May 21, it was decided to reduce the directorate from thirty-nine to seventeen members.

Recommends Revocation of License.—The grand jury in a partial report, submitted May 11, is said to have recommended that the license of Dr. Cora Emery Reed, practicing physician, be revoked on account of the unfit moral and physical conditions found to exist in the Rock Island Maternity Home.

INDIANA

Personal.—Dr. C. P. Hutchins has been appointed director of physical training at the University of Indiana, Bloomington.——Dr. Harry H. Long, La Porte, sustained minor injuries by the overturning of his automobile, April 29.——Dr. William W. Blair, Princeton, entertained the members of the Gibson County Medical Society at his home, May 13, in celebration of the sixtieth anniversary of his entrance into the practice of medicine.——The office of Dr. L. B. W. Johnson, Ireland, was destroyed by fire May 11.——Dr. Benjamin F. Kuhn, Elkhart, was seriously injured in a collision between his automobile and a street car May 8.——Dr. Simon J. Young, Valparaiso, has started for Europe.

IOWA

Course in Bacteriology.—A course in bacteriology, consisting of lectures, recitations and laboratory work, will be given under the Department of Pathology and Bacteriology of the State University, Iowa City, June 16, lasting four or five weeks. This course will be especially adapted to the needs of physicians and health officers.

Iowa Medical Women Meet.—At the annual meeting of the Iowa State Society of Medical Women, held during the meeting of the state medical society in Des Moines, the following officers were elected: President, Dr. Sophie Hinzie Scott, Des Moines; vice-presidents, Drs. Lily Kinnier, Dubuque, and Florence B. Sherbon, Colfax; secretary, Dr. Lena A. Beach, Cherokee, and treasurer, Dr. Clara B. Whitmore, Cedar Rapids.

State Society Election.—At the annual meeting of the Iowa State Medical Society, held at Des Moines, May 20 to 22, the following officers were elected: President, Dr. Mathew N. Voldeng, Cherokee; vice-presidents, Dr. William J. Egloff, Mason City, and Harootune A. Minassian, Des Moines; councilors, Dr. Clyde A. Boice, Washington; George E. Crawford, Cedar Rapids, and Giles C. Moorefield, Ida Grove; trustee, Dr. Gilbert G. Cottam, Rock Rapids, and delegates to the American Medical Association, Dr. David S. Fairchild, Clinton, and Dr. David C. Brockman, Ottumwa. The next meeting of the Association will be held in Des Moines.

Personal.—Dr. Thomas C. Brady, Marshalltown, is reported to be ill with septicemia.——Dr. Harley Saylor has succeeded Dr. Clifford W. Losh as city physician of Des Moines.——Dr. Frank M. Tombaugh, in charge of the medical relief department of the Burlington system at Burlington, has resigned and will engage in private practice.——Dr. and Mrs. Elbridge M. Breniman, Ackley, have started for Europe.——Dr. Isaac L. Potter, Ackley, was operated on for the removal of gall-stones, at Rochester, Minn., May 2, and is reported to be doing well.——Dr. Frank E. Boyd, Colfax, has been appointed surgeon for Spring City Railway, Colfax Northern Railway and Rock Island System.——Dr. William A. Stoecks has been appointed city physician of Davenport.——Dr. Frank S. Smith, Nevada, who was seriously injured in an automobile accident a few weeks ago and had a complication of pneumonia and pleurisy is reported to be improving.

LOUISIANA

The Sickles' Legacy Fund.—The mayor of New Orleans has written the city attorney asking what course to pursue to make use of the S. B. Sickles' Legacy Fund, which was left to the city forty years or more ago to provide medicine for poor people. The fund now amounts to $106,779, and has not been disturbed in about twenty years.

Charity Hospital Alumni Meet.—At the annual meeting of the Charity Hospital of Louisiana Alumni Association, held in New Orleans, May 2, the following officers were elected: President, Dr. William H. Seemann; vice-presidents, Drs. Albert J. Mayer and Alfred C. King; secretary, Dr. Lucien H. Landry (reelected); treasurer, Dr. Philip W. Bohne (reelected), and executive committee, Drs. Charles N. Chavigny, James B. Guthrie and Isaac I. Lemann, all of New Orleans.

MARYLAND

County Society Meeting.—At the annual meeting of the Baltimore County Medical Association, held in Towson, May 19, the following officers were elected: President, Dr. Edward N. Brush, Towson; vice-president, Dr. Harry S. Jarrett, Towson; recording secretary, Dr. Josiah S. Bowen, Mount Washington; corresponding secretary, Dr. Richard C. Massenburg, Towson; treasurer, Dr. William L. Smith, Rider; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. H. Louis P. Naylor, Pikeville, and alternate, Dr. D. L. Gibbons Smart, Lutherville.

Personal.—Dr. V. Milton Reichard, Fairplay, is seriously ill with pleurisy.——Dr. H. Burton Stevenson, Sherwood, was shot and seriously wounded by his brother, May 16, and was taken to University Hospital, Baltimore.——Dr. H. Arthur Mitchell has been elected president and Dr. William D. Cawley member of the common council of Elkton.——Dr. Frederick N. Nichols, Denton, has been appointed health officer of Caroline County and Dr. John E. Legge of Garrett County.——Dr. Jephtha E. Pitsnogle, health officer of Washington County, recently appointed, has declined to act as health officer of Hagerstown.

Baltimore

Baltimore College Commencement.—Baltimore Medical College held its annual commencement exercises May 26 and graduated a class of fifty-four. Dr. Lee E. Bransford of Tennessee received the college medal and the degree of Doctor of Medicine *magna cum laude*.

Personal.—Dr. Richard P. Bell will move to Atlanta, Ga.——Dr. Lewis M. Allen has moved to Mount Clinton, Va., where he will take up the practice of the late Dr. Samuel T. Latané.——Dr. Gustav A. Thiede has been elected state physician of the order of Eagles.

MASSACHUSETTS

Society Meetings.—The annual meeting of the Suffolk District Medical Society was held in Boston April 30. Dr. George H. Monks was reelected president; Dr. Francis B. Harrington, vice-president; Dr. David D. Scannell, secretary; Dr. Arthur K. Stone, treasurer; Dr. B. Jay Jeffries, librarian; and Dr. Fred T. Murphy, commissioner of trials, all of Boston.——Worcester North District Medical Society held its annual meeting in Fitchburg, April 26, and elected the following officers: President, Dr. William N. Cowles, Ayer; vice-president, Dr. Charles J. Pierce, Shirley; secretary, Dr. Walter F. Sawyer, Fitchburg; treasurer, Dr. Frederick H. Thompson, Fitchburg; councilors, Drs. Charles E. Bigelow, Leominster, and Ernest P. Miller, Fitchburg; nominating councilor, Dr. Charles E. Bigelow, Leominster; committee on trials, Dr. Luther G. Candler, Townsend; censors, Drs. Ernest P. Miller, Fitchburg; Appleton H. Pierce, Leominster; John B. Donnelly, Gardner; Hartstein W. Page, Baldwinsville; Edward J. Tully, Fitchburg, and librarian, Dr. Atherton P. Mason, Fitchburg.

MICHIGAN

Donates Hospital.—Edward W. Sparrow, Lansing, has presented to the city a site valued at $12,000 and $88,000 in cash for the erection of a new hospital.

Cocain Seller Fined.—Ray Stout, Detroit, convicted of selling cocain, is said to have been sentenced, on May 8, to pay a fine of $225, and be confined in the Detroit House of Correction for sixty days.

Society Meets.—St. Joseph County Medical Society held its annual meeting in White Pigeon April 20, and elected Dr. John R. Williams, White Pigeon, president; Dr. Frank A. Pratt, Centerville, vice-president, and Dr. Samuel R. Robinson, Sturgis, secretary-treasurer.

MINNESOTA

State Sanatorium in Danger.—The state tuberculosis sanatorium, Walker, was saved from destruction during the recent forest fires only by the strenuous efforts of the patients and attendants, with assistance of the citizens.

Society Meeting.—At the annual meeting of Stearns-Benton County Medical Society, held in St. Cloud, April 21, Dr. John C. Boehm, St. Cloud, was elected president; Dr. William Frieseleben, Sauk Rapids, vice-president; and Dr. Claude B. Lewis, St. Cloud, secretary-treasurer.

Personal.—Drs. Ivor S. Brenson and Palmer E. Brandon have opened a hospital in Jackson.——Dr. Harry A. Tomlinson, for twenty years superintendent of the St. Peter State Hospital for the Insane, has been appointed superintendent of the State Farm for Inebriates, near Wilmar.

MISSOURI

Personal.—Dr. Benjamin Belove, Kansas City, has returned from Europe.——Dr. Charles M. Johnson, St. Charles, is reported to be seriously ill.

Alumni Meet.—The class of 1900 of the University Medical College, Kansas City, held its tenth annual reunion in Kansas City, May 11. Dr. William G. Rowe, Blue Springs, was elected president.

Hyde Found Guilty.—The jury in the Hyde-Swope case is said to have found Dr. B. Clark Hyde guilty of murder, May 16, and he was sentenced to imprisonment for life in the state penitentiary.

Tefft Memorial Services.—Memorial services in honor of the late Dr. Jonathan E. Tefft were held by the Greene County Medical Society, at Springfield, May 13. A number of addresses were made and the medical library of Dr. Tefft was presented to the society by his widow.

Graduating Exercises.—At the graduating exercises of the University Medical College, Kansas City, held May 13, a class of forty-seven received diplomas. Rev. Cyrus Townsend Brady delivered the doctorate address and Dr. Jabez N. Jackson presented the diplomas and awarded the prizes.

Medical Secretaries Meet.—At the second annual meeting of the Missouri Society of Medical Secretaries, held in Hannibal, May 3, the following officers were elected: President, Dr. George W. Goins, Breckenridge; vice-presidents, Drs. Bert B. Parrish, Kirksville; Vincent O. Williams, Nevada, and secretary-treasurer, Dr. Charles Wood Fassett, St. Joseph. The next meeting of the society will be held in Jefferson City on May 11. Dr. Frederick R. Green, assistant secretary of the American Medical Association, was a guest of the society and delivered an address on "Medical Reorganization—Past and Present."

St. Louis

Personal.—Dr. John C. Morfit has been appointed first hospital commissioner under the new hospital commission.——Drs. Major G. Seelig, Willis B. Young and Harvey G. Mudd have been appointed members of the surgical visiting staff of the new St. Louis City Hospital, and Drs. George C. Crandall, Carl J. Luyties and Elsworth Smith, Jr., members of the visiting medical staff.

Commencement Exercises.—The commencement exercises of Barnes University Medical Department were held in St. Louis May 16. A class of fifty-one received diplomas from Dr. Alonzo R. Kieffer, dean of the faculty. The doctorate address was made by the Rev. W. M. Wilkinson and the honorary degree of Doctor of Medicine was conferred on David C. Morrow, secretary of the dental department.

Fraternity to Meet.—The second international meeting and dinner of the Alpha Omega Medical Scholarship Society will be held under the auspices of the Washington University Chapter at the St. Louis Club, 3663 Lindell Avenue, at 6:30 Tuesday evening, June 7. The tickets are $2 and members may bring friends. Announcement will be made at this meeting of the time and place of a special meeting of delegates to be held later.

MONTANA

Hospital Opened.—The Geiger Building, Libby, has been fitted up by Drs. E. F. Coyningham and Robert Auld. It will be known as the Libby General Hospital.

Personal.—Dr. Willard A. Long, Lewistown, with his wife and daughter, sails for Europe June 11. Dr. John T. Foley will act as health officer during the absence of Dr. Long.

State Board of Health Meeting.—At the annual meeting of the State Board of Health, held at Hunters Hot Springs, May 10, the following officers were elected: Dr. Samuel E. Leard, Livingston, president, and Dr. Thomas D. Tuttle, Helena, secretary.

NEBRASKA

Tuberculosis Camp Project Abandoned.—The opposition of property owners has resulted in the abandonment of the project to establish a tuberculosis hospital at Pries Lake, north of Florence.

County Medical Society Meeting.—Cuming County Medical Association at its annual meeting held in West Point, elected Dr. Harry W. Francis, Bancroft, president, and Dr. Harry L. Wells, West Point, secretary.

NEW YORK

Charities Aid Report.—The thirty-seventh annual report of the Charities Aid Association has just appeared. Legislation creating the Board of Ambulance Service for Greater New York was one of the reforms obtained by the association. The society also aided in the effort to obtain ambulance relief stations in three different sections of Greater New York. Two bills have become laws, one authorizing the establishment of county hospitals for tuberculosis, and the other providing for the ambulance service of New York City. They also drafted a bill providing for the more adequate treatment of intoxication and inebriety in this city, but the bill failed of passage. Owing to the increase of the association's work for children there was a deficit of $2,500 in the general fund.

Heavy Cost of the Insane.—According to the statement issued by the state controller recently, the largest item of expenditure during the past ten years has been for the support of state hospitals for the insane. During the last decade this expenditure amounted to $54,018,361. The state lunacy commission reports that during the last year 6,474 patients were received into the state hospitals and 23 per cent. as many were discharged, recovered. The total number now under treatment is 31,000. Dr. Albert Warren Ferris, New York City, president of the state lunacy commission, read a paper at the annual meeting of the American Medico-Psychological Association urging certain preventive measures to be inaugurated immediately, as they would result in great saving to the state.

Buffalo

Section Officers Elected.—The section of medicine of the Buffalo Academy of Medicine has elected Dr. Lesser Kauffman, chairman, and Dr. Carl S. Tompkins, secretary.

Law Against Spiritualists and Clairvoyants.—As the result of the acquittal of Mrs. Lane, a spiritualist or clairvoyant, Erie County Medical Society has had drawn a bill for the purpose not only of stopping the practice of spiritualists and clairvoyants, but with the intent to put a stop to all mental healers who practice for money consideration. The bill provides that every person practicing the healing art must have a diploma. The bill has been passed by the general assembly.

Care of Insane Before Commitment.—The report of the committee appointed by the Buffalo Academy of Medicine on the care of the insane prior to commitment shows the need of improvement in the methods in vogue in the state. Although the best care should be taken of the insane, the fact still remains that more than 37 per cent. of the men and more than 10 per cent. of the women committed to the Buffalo State Hospital have been sent from jails and police stations. The committee found many instances of long delays and lack of considerate care, neglect and improper provision.

OHIO

Governor Refuses Optometrists.—In spite of the efforts of a committee of the Ohio Optical Association, headed by the vice-president, Governor Harmon has refused to reconsider his veto of the Dean Optometry Bill.

Personal.—Dr. Francis P. Corrigan, Cleveland, has returned from Europe.——Dr. Asa C. Messenger has been appointed health officer of Xenia.——Dr. Louis F. Bucher has been appointed medical inspector of the Board of Education of Dayton, and Dr. John W. McKenny has been appointed a member of the board.

College Commencement.—The third annual commencement exercises of Starling-Ohio Medical College, Columbus, were held May 18, when a class of 39 was graduated. President W. C. Thompson of the Ohio State University delivered an address and conferred the degrees and Oscar T. Corson, formerly State School Commissioner, delivered the commencement address.

Damages Against Physician.—In the case of Mrs. Sarah V. Palmer against Dr. William H. Humiston, Cleveland, in which it was alleged that, after a surgical operation, the defendant had allowed a gauze sponge to remain in the wound, which was removed six months later by another operation, a verdict of $5,000 damages is said to have been awarded the plaintiff, April 30.

School for National Guard Medical Officers.—A school for medical officers of the Ohio National Guard will be held in Columbus, June 8 and 9. The instructors, who are all of the Medical Corps of the Army, are Major Edward L. Munson, Fort Leavenworth; Major Charles R. Reynolds, Fortress Monroe; Major Henry C. Fisher, Columbus Barracks, and Capt. W. Henry Pipes, Washington, D. C.

Societies Meet.—The physicians of Salem met April 25 and organized the Salem Physicians' Club, with Dr. Andrew W. Schiller, president, and Dr. Paul E. Barckhoff, secretary.——At the meeting of the Ohio Alumni of Jefferson Medical College, held in Toledo, May 12, Dr. Albert W. Fisher, Toledo, was elected honorary president; Dr. Richard S. Gaugler, Dayton, president; Dr. Silas W. Fowler, Delaware, vice-president, and Dr. Fred Fletcher, Columbus, secretary and treasurer.

In the Hands of the Law.—Dr. John C. Snyder, Bowling Green, is said to have been convicted in the probate court of the illegal prescription of liquor to a detective named Collier, and to have been fined $250 and costs. However, $200 of the fine was suspended until further order of the court.——Dr. Jacob F. Wallom, Jerry City, charged on several counts of

selling liquor in violation of the law, was discharged April 29. ——James M. Luburg, Miamisburg, whose certificate is said recently to have been revoked by the state medical board on the charge of unprofessional conduct has been granted a new trial by the governor and attorney-general sitting as a court of appeal.

Cincinnati

Personal.—Dr. Robert D. Mussey, receiving physician of the City Hospital, has resigned to accept a position in Rochester, Minn., and has been succeeded by Dr. Charles Howard.——Dr. J. C. Cadwallader, for fifteen years health officer of Norwood, has resigned and has been appointed chairman of the board of health; Dr. Frank Perry has been appointed health officer and Dr. Louis Sauer district physician.——Dr. Simon P. Kramer has sailed for Europe.——Drs. William E. Lewis, professor of anatomy, Charles L. Metz and Moses Salzer, demonstrators of anatomy, Grear Hill Baker, demonstrator of biology, Walter R. Griess, lecturer on applied anatomy, and Henry L. Woodward, demonstrator of embryology, have left the faculty of the Ohio-Miami Medical College. It is reported that a new head of the department from an eastern college is to be appointed who is expected to select his own staff.

OKLAHOMA

Protective Association Organized.—The Tilman County Physicians' Protective Association was organized at Frederick recently and the following officers were elected: Dr. Fred G. Priestly, president, and Dr. Adam B. Fair, secretary, both of Frederick.

OREGON

Commencement.—The Medical Department of the University of Oregon, at its annual commencement exercises, May 2, graduated a class of fifteen. Hon. Abbott Low Mills delivered the annual address, President P. L. Campbell conferred the degrees and presented the Saylor and anatomy medals, and Dr. Edmund J. Labbe delivered the charge to the graduating class.

New Hospitals.—Granite City Hospital, with a capacity of 50 patients, a new hospital of solid concrete construction, and which has cost about $40,000, was formally opened in Ashland, April 30.——Mrs. Millie Trumbell, Portland, is agitating actively the matter of an emergency hospital for Portland, to be located in the new Multnomah County Courthouse. She is also advocating the instruction of the police in first-aid to the injured.——Ground is reported to have been secured for the erection of a hospital for Chinese in Portland and $40,000 has been subscribed for the institution.

PENNSYLVANIA

Personal.—Dr. J. Budd Rees has resigned as resident physician at Pottstown Hospital.——Dr. Edward R. Myers has been elected president of the board of health of Pittston, and Dr. Edward F. McGinty a member of the board.

State to Care for Tubercular Children.—Announcement was made by Dr. Samuel G. Dixon, State Commissioner of Health, May 24, that a special department for tubercular children is being established at Mount Alto and that separate children's clinics will be held at the dispensary every Saturday from 1 to 4 p. m. Dr. Charles Weber, an expert on diseases of children, has been appointed to examine and look after these patients. Cases among children will be reported by the public school authorities, and the new children's building at Mount Alto will be utilized to take care of the more advanced cases.

Tuberculosis Notes.—Berks County Tuberculosis Sanatorium on Neversink Mountain, opened for the season, May 12, with accommodations for fifteen patients.——At a meeting held in Erie, May 13, a local branch of the state society for the prevention of tuberculosis was organized. Drs. John W. Wright, Edward Cranch and George B. Kalb were elected vice-presidents.——A contract has been awarded by the State Department of Health for the erection of a group of buildings consisting of a dining hall, infirmary, nurse's home, physician's house and ward building, at the State Sanatorium, Mount Alto, the cost of the buildings to be $106,000.——A contract has been awarded for the building of an addition to the Homestead Hospital, to be three stories in height, of brick, and to cost about $10,000.

Philadelphia

Gone to Europe.—The following physicians have sailed for Europe: Drs. J. Nicholas Mitchell, Alfred Bernstein, and Howard T. Karsner.

Bequests.—The will of the late John H. Converse bequeathes $25,000 to the Presbyterian Hospital.——By the will of the late Samuel E. Shoyer, the Jewish Hospital receives a bequest of $5,000 for the establishment of a free bed in memory of Gabriel and Louisa Shoyer.——The will of the late Lucinda Dodson devises $8,000 in trust for the benefit of Albert B. Dodson and at his death $5,000 is to be given to the Methodist Episcopal Hospital to endow one or more free beds.

Hospital Staff Appointed.—Dr. Joseph S. Neff, director of Health and Charities, appointed the following staff of visiting physicians at the Tuberculosis Hospital, Byberry: Drs. Ward Brinton, Samuel Rhoads, Arthur C. Morgan, Daniel M. Hoyt, Edward J. G. Beardsley, Joseph V. C. Roberts, J. Clinton Foltz, and J. Willoughby Irwin. The plan of the department is to receive from the various hospitals of the city, all those cases of consumption, among the deserving poor, that are moderately advanced—that is, those for whom there is the slightest hope of recovery—and there keep them under the direct care of visiting physicians. Dr. Henry Sykes, chief resident physician, has sent examining blanks to all the city hospitals and on May 27, 40 patients were sent from the Philadelphia General Hospital and 6 from Jefferson Medical College Hospital.

Furthering the Baby-Saving Campaign.—To further the plans of last week for the baby-saving campaign this summer, another meeting was held at Dr. Neff's office at City Hall on May 20 and the following committee was appointed: Dr. Jesse D. Burks, director, Bureau of Municipal Research; Miss Lucy Davis, secretary, Visiting Nurse Society; Dr. Samuel McC. Hamill, Pediatric Society; Miss Anna Jeffries, superintendent, St. Christopher's Hospital for Children; J. Percy Keating, vice president, Society for Prevention of Cruelty to Children; Miss Mary V. Kemp, Church House Settlement; Porter R. Lee, general secretary, Society for Organizing Charity; the Rev. H. Cresson McHenry, assistant superintendent, Protestant Episcopal City Mission; J. Prentice Murphy, superintendent, Children's Bureau; Mrs Solomon Selig, Juvenile Aid Committee; Dr. Louis Starr, Mrs. E. Boyd Weitzel, president, Country Week Association. Mayor Reyburn forwarded a message to Councils asking that $5,400 be appropriated immediately toward the establishment of a Division of Child Hygiene, under the Department of Health and Charities. All through the 18 schools of the second, third, fourth, fifth, sixth and seventh wards, lectures under the joint supervision of the Bureau of Health, the Visiting Nurses and the Bureau of Municipal Research, were given by Dr. Neff's medical inspectors, assisted by the school nurses, May 26. These were simple practical talks to the little girls, on the care of babies, the proper way to dress them and most important of all—the care of their milk and bottles. It is hoped that these "little mothers," who practically have full charge of the babies of their families will carry out these precepts. The work which will center in the two downtown wards where the death rate among babies is highest, will begin June 1. Every house where a birth is reported or where a baby is known to live, will be visited and advice and instruction will be given to the mother. In order to facilitate prompt notification of births, Dr. Neff has planned to have reports of births sent informally by postcard or telephone within 24 hours to the Central Registration Bureau, instead of waiting for the allowed 10 days. In a house where there is no regular attending physician, the nurse will leave an addressed postal card, which can be used to notify the Health Department in case of the baby's illness. Upon receipt of such notification, the department will investigate through one of its physicians and the physician and nurse will render assistance as long as may be necessary.

VERMONT

Personal.—Dr. Everal C. Haviland, first assistant physician of Brattleboro Retreat, has resigned.——Dr. James D. Tanner, Burlington, sailed for Europe, April 23.——Dr. Clarence F. Ball has been reappointed health officer of Rutland.

State Board Meeting.—The State Board of Health in Rutland, May 12, decided to hold the summer school for health officers in Montpelier during the first week in August, and to discontinue, for the season, the tour of the tuberculosis exhibit.

VIRGINIA

Buildings for Epileptic Colony.—The board of trustees of the state epileptic colony of Amherst County near Lynchburg, expects to have its work well under way by September 1. The present three buildings on the farm will be utilized, one as a cottage for inmates, one as an administration building and a third for farm employees. Plans for a new building have been accepted and the building will be ready for occupancy by the end of the year.

GENERAL NEWS AND COMMENT

Medical Librarians' Meeting.—The Medical Library Association will hold its thirteenth annual meeting in the Southern Hotel, St. Louis, June 6 and 7, under the presidency of Dr. John H. Musser, Philadelphia. The association will discuss matters relative to libraries and library movements.

Gastroenterologists to Meet.—The thirteenth annual meeting of the American Gastroenterological Association will be held in St. Louis, June 6 and 7, at the Planter's Hotel, under the presidency of Dr. Julius Friedenwald, Baltimore, the subject of whose address will be "Recent Events in the Development of Gastroenterology."

Harvard Alumni to Meet at St. Louis.—Harvard alumni attending the American Medical Association meeting at St. Louis will meet at the University Club for dinner, at 6:30 p. m., June 7. Dr. John Green will act as toastmaster. There will be a desk for registration at the general headquarters in the Southern Hotel, where the Alumni are urged to register. Dr. Nathaniel Allison, 609 Metropolitan Building, is in charge of the arrangements.

Meeting of State Medical Examining Boards.—The twentieth annual convention of the National Confederation of State Medical Examining and Licensing Boards will be held in the Southern Hotel, St. Louis, June 6, under the presidency of Dr. Augustus Ravogli, Cincinnati, the subject of whose address is "A Plea for More Practical and Extended Clinical Instructions for Medical Students." The matter of combining the American and National confederations will come up for action before this meeting.

Frisco Surgeons Meet.—The ninth annual convention of the Frisco System Medical Association was held in Springfield, Mo., May 16 and 17. St. Louis was selected as the place of meeting for 1911 and the following officers were elected: President, Dr. Elijah J. Neathery, Sherman, Texas; vice-presidents, Drs. William S. McDonald, Fort Scott, Kan., and James R. Dawson, Birmingham, Ala.; secretary, Dr. Stanton K. Crawford, St. Louis (reelected); treasurer, Walter A. Camp, Springfield, Mo. (reelected), and Dr. William Britt Burns, Memphis, Tenn., member of the executive committee.

Conference Regarding Feeble-Minded.—The thirty-fourth annual conference of the American Association for the Study of the Feeble-Minded was held at the Lincoln (Ill.) State School and Colony, May 16 to 18. The following officers were elected: President, Dr. Arthur R. T. Wylie, Faribault, Minn., vice-president, Dr. Harry G. Hardt, Lincoln; secretary and treasurer and editor-in-chief of the *Journal of Psycho-Asthenics*, Dr. A. C. Rogers, Faribault, Minn., and associate editors, Drs. Walter E. Fernald, Waverly, Mass.; Martin W. Barr, Elwyn, Pa.; George Mogridge, Glenwood, Iowa; Arthur R. T. Wylie, Faribault, Minn.; H. H. Goddard, Vineland, N. J.; Harry G. Hardt, Lincoln, Ill., and Charles S. Little, Laconia, N. H.

Prevention of Infant Mortality.—At the annual meeting of the American Association for the Study and Prevention of Infant Mortality, to be held in Baltimore November 10 and 11, the session on Municipal, State and Federal Prevention will be in charge of Dr. Wm. H. Welch, Baltimore, chairman, and Dr. John S. Fulton, Washington, D. C., secretary; the session on Medical Prevention will be presided over by Dr. L. Emmett Holt, New York City, with Dr. Philip Van Ingen, New York City, as secretary; Dr. Helen C. Putnam, Providence, R. I., will preside over the session on Educational Prevention and Prof. Abby Marlattt of the University of Wisconsin will be secretary, and Hastings H. Hart, New York City, will be in charge of the session on Philanthropic Prevention.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 14, 1910.

The Death of King Edward

The death of the King, after a brief illness, on May 6, in his sixty-ninth year, has fallen as a heavy blow on all his subjects throughout his vast empire. We realize that we have lost a ruler of exceptional merits whose one idea was the service of his people by the promotion of peace among nations. With what skill he worked for this ideal and attained a title which has never been borne before, "the world's peacemaker," is well-known. His success depended not on intellectual greatness but on a personality of singular charm. He has been well described as "The kindest man who ever wore a crown." He always took a great interest in the profession of medicine and he was a staunch friend of it. In collecting funds for the hospitals he was foremost. He founded the "King Edward's Hospital Fund" from which large grants are made every year to all the London hospitals. In the scientific aspects of medicine he was also deeply interested. As Prince of Wales he presided at the last International Medical Congress held in London and his interest in the problems of tuberculosis and cancer are well-known. In the anti-tuberculosis campaign he made the epigrammatic remark which has often been quoted: "If preventable why not prevented." Speaking of cancer investigation he said that the man who discovered a cure for that dire disease deserved to have a statue erected to his memory in all the capitals of the world.

The Treatment of Cancer

The practice of the Cancer Hospital, London, is of interest as showing the results of the latest methods of treating cancer. The electrical department is well-equipped with apparatus for the *x*-rays, ionic medication, high-frequency currents and radium therapy. Last year nearly 2,000 treatments were administered. As before, the *x*-rays have been found to alleviate a considerable number of cases but no cures can be claimed. The use of the high-frequency currents is limited to the relief of pain. Ionic medication has given good results in some cases but it has failed in extensive, inoperable and internal cancer. At a cost of $1,000 20 milligrammes of radium have been obtained. In superficial cancer radium has given good results and certain cases can be claimed as cured. But in the deep-seated cases of advanced growth all that has been obtained is temporary checking of the disease and relief of pain. The trypsin treatment for which so much was claimed has proved a complete failure. The same is true for the serum of Doyen of Paris. In spite of these results, however, the fact that in rare cases (estimated to be somewhat less than 1 in 1,000) cancer undergoes spontaneous cure, that in others the natural resistance of the body to the growth of cancer is great, and that Nature by means of fibrosis and sloughing attempts to get rid of the disease seem to give hope of the discovery of a cure, and point to a serum treatment. At present another serum treatment is being tried.

Disappearance of Yellow Fever from the West Indies

Prof. Rupert Boyce, who has just returned from Jamaica, reports that the old-time scourge of the West Indies has practically disappeared. About the year 1850 the introduction of water-pipes in nearly all the principal towns did away with the necessity for wells, vats and barrels, the breeding-places of the stegomyia, greatly reducing its numbers and the number of cases of yellow fever. Professor Boyce states that whenever an appreciable, though not necessarily a complete reduction in the number of stegomyia, is brought about in a district, from that time yellow fever ceases to be endemic. In short, a certain excess of this mosquito appears necessary to maintain continuous infection or endemicity; short of that number endemicity disappears. But if by chance a case of yellow fever should be imported from some distant center in Central America, where the disease is still endemic, then a smaller or larger outbreak will occur, limited in extent by the number of stegomyia existing in the particular district. These outbreaks, despite increasing commercial relations, are every year becoming less frequent and smaller.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 13, 1910.

Physicians in the Chamber of Deputies

The new Chamber of Deputies, elected on April 24 and May 8, comprises 597 deputies, among whom are 49 physicians. In the former chamber there were only 591 deputies, of whom 54 were physicians. This proportion appears larger, because the other professions, except those of law and journalism, are represented by much smaller numbers. Among the new deputies there are only 13 pharmacists. There are, however, about 120 lawyers. A well-known publicist, M. Henry Maret, who never fails to disparage physicians a little, asks why there are so many lawyers and physicians, and goes on to say that it is easy to understand why there are so many lawyers; it is their business to understand the law and it is natural for them to be called on to make laws; but, he asks, what relation has the medical profession with the conduct of the governmental affairs? Literature, it has been wittily said, leads to everything, provided one forsakes it. "Just as good writers keep out of politics," M. Maret remarks, "the best physicians are not those who become legislators."

There may be some truth in this observation; but medicine and social hygiene are called on to play an important rôle in modern legislation. The medical profession, moreover, has

furnished some eminent men to politics. Two former premiers, who played a considerable rôle in recent years, M. Combes and M. Clemenceau, were medical men. One of the most prominent members of the last legislature, M. Fernand Dubief, former vice-president of the Chamber of Deputies, who has twice been a minister, is likewise a physician, and consequently took an active part in legislation requiring special knowledge along this line, such as the laws on industrial accidents and reform of legislation in regard to the insane, etc.

The Jubilee of Dr. Gellé Père

In one of my previous letters (THE JOURNAL, March 26, 1910, liv, 1069) I mentioned the formation of a committee to take charge of the celebration of the jubilee of Dr. M. E. Gellé. This ceremony took place, under the presidency of Dr. F. Raymond, professor at the Paris college of medicine, and many otologists were present, colleagues, pupils and friends of Dr. Gellé. Letters of congratulation were read from Austrian, Belgian, Spanish, Italian, Dutch and Roumanian otologic societies. At the close of the ceremony, Dr. Gellé was presented with an artistic medal, bearing his own portrait, the work of A. Boucher.

A Victim of Medical Duty

M. Neyraud, intern under Dr. Donnet, professor of clinical obstetrics in the Limoges medical school, has just died of septicemia, due to a scratch infected by the pus from a salpingitis on which an operation had been done. The administration of the Limoges hospital has undertaken to defray the expense of Neyraud's funeral and to pay suitable honors to his remains. The minister of public instruction has ordered academic palms to be placed on the coffin of the young victim of professional duty.

Death of Professor Trolard

The death is reported of Dr. Paulin Trolard, professor of anatomy in the Algiers college of medicine. Dr. Trolard had been since 1906 a national correspondent of the Académie de Médecine.

Treatment of Wounds of the Hands with Tincture of Iodin

During the session, May 3, of the Académie de Médecine, Dr. Paul Reclus, professor of clinical surgery at the Paris college of medicine, made a report on the treatment of wounds of the hands by painting with tincture of iodin. The treatment of such wounds has taken on much importance since the passage of the law on industrial accidents. It is well known how wide-spread is the practice of washing the hands of wounded workmen with benzin, gasoline or ether before treating them. This practice ordinarily results in the infection of the wound by the diffusion and dissemination of the microbes, which multiply in the dust deposited in the folds and wrinkles of the skin of the fingers. Dr. Paul Reclus believes that no preliminary disinfection should be done and that immediately after the accident the wounded region should be painted with tincture of iodin, a layer of which should be deposited all around and over the wound itself. When the tincture of iodin has once evaporated the region should be covered by an aseptic compress and a pad of absorbent wadding held in place by a bandage. This painting, which should be renewed every day, insures perfect asepsis of the wound, reduces inflammation to the minimum and leads to rapid cure. In order to avoid blistering, only a freshly prepared tincture of iodin should be used. On account of its extreme simplicity, dressing with tincture of iodin is capable of rendering great service in all urgent cases and especially in times of war.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 13, 1910.

Personals

Professor Curschmann of Leipsic, director of the medical clinic at that place, died May 6 at the age of 63. His death was unexpected, especially by those who, like myself, had the opportunity to see him at the meeting of the association for internal medicine in full bodily and mental vigor. Influenza of a few days' standing attacked his heart and suddenly terminated his life. In Curschmann there has departed from us a great investigator, teacher and physician. He entered on his teaching career in 1875 at the university of Berlin and in the same year was appointed at the age of 29 as chief physician at the Moabit hospital. As a result of the success which he achieved in this position he was called in 1879 to Hamburg as the director of the state hospital. Here he directed the building of the new general hospital at Eppendorff and showed a remarkable knowledge of hospital building and hospital management, so that the hospital under his direction was for a long time recognized as the model hospital of Germany. In 1888 he was called to Leipsic as the successor of the renowned clinician Wagner and in this position, in spite of numerous invitations from other universities, he remained until his death. Curschmann produced a long series of scientific articles and works. Of his monographs, his article on typhoid fever in Nothnagel's treatise is especially notable. All his articles bear the stamp of wide experience and thorough criticism; they are clearly written and therefore highly esteemed by practicing physicians. Curschmann had a vigorous personality and knew how to exert his full authority in every position. In addition he was a very politic man. He had formed the greatest school of all living German clinicians and thanks to his influence and the worth of his pupils, most teaching positions in internal medicine were occupied by his pupils, as for instance, Krehl in Heidelberg, Romberg in Tübingen, His in Berlin, Hirsch in Göttingen. Presumably he will be succeeded by one of his pupils.

Professor Edlefsen of Hamburg, died a few days before Curschmann, at the age of 68. He was for a long time professor extraordinary of medicine at Kiel and had charge of the medical policlinic at that place. He was the author of a Text-Book of Diagnosis of Internal Diseases (Lehrbuch der Diagnostik der Inneren Krankheiten). His chief work lay in the field of pulmonary diseases. Some years ago he resigned his position at Kiel and took up his residence at Hamburg.

At the end of the summer semester Professor Leber, director of the university eye clinic at Heidelberg, will retire from his professorship.

Professor Verworn of Göttingen has received a call to Bonn as successor of Pflüger. Professor Heller, director of the pathologic institute of Kiel, celebrated his seventieth birthday, May 1.

International Exposition of Hygiene at Dresden

A short time ago it was determined to establish a special department in the exposition which should point out to the public the dangers which threaten it on account of quackery. The collection of the German society for the suppression of quackery is to serve as a nucleus for this part of the exposition; a call will be issued for other material.

Berlin University Centennial

The city government has appropriated $48,000 (200,000 marks) for the celebration of the jubilee of the university in October. Out of this sum such attendants of the university are to be taken care of as have shown themselves capable, have completed their academic education and can show that their further education will be improved by travel for study.

Tuberculosis Meetings

This week, as is the annual custom, various meetings for the campaign against tuberculosis have occurred, especially a general session of the German central committee for the campaign against tuberculosis, a session of the executive section of the central committee and a session of the commission appointed by the central committee for the campaign against lupus. For lack of space I will postpone the report of these very interesting meetings until my next letter.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, May 10, 1910.

A Tariff of Medical Fees

The fight which the medical profession is prepared to carry on against the ruinous legislation called "social reform" requires organization and money. As about 90 per cent. of all practitioners belong already to the organization, the strike, if declared, will be rigidly adhered to and no club work will be done by doctors. In order to enable the doctors to deal with the population fairly, in case of club strike, the following tariff has been worked out for the country districts, with the strict understanding that no practitioner will be allowed to charge less:

The population will be regarded from the standopint of income. Persons or families with less than $250 (1,200 crowns) a year income, will be charged 20 cents (1 krone) per visit at the surgery; 50 per cent. more for a visit in the house of the patient, a moderate charge of 40 cents extra being added for each half hour's ride or drive. If the income

be between $250 and $500 (teachers, clerks, better class of laborers) the tariff is 30 cents and 40 cents respectively for a visit, and 60 cents per half-hour drive. Persons with an income of more than $500 (2,400 crowns) or from another doctor's district will be charged 40 cents for consultation at the surgery, 50 per cent. more for a visit at the patient's lodging, and 80 cents per half-hour drive. Carriage charges are always to be paid by patient; night calls always 100 per cent. more; special hours, immediate calls 50 per cent. above ordinary fee. Consultations with the house physician are to be charged for respectively at $1.10, $1.60 and $2, and at least $2 for the consultant. The tariff will come in force on the day that the practitioners refuse all Krankenkasse or club practice; it is a little higher than the usual fees charged in our country, in the upper limit at least, but it is very moderate in the lower limit, so as to give the poorer classes still the opportunity of obtaining medical help without the clubs. The population are informed already that this attitude of the profession has been caused by the threatening law, which will make private practice among the lower middle classes practically impossible.

The New Infants' Home in Vienna

In this country the government has taken over the charge of all orphans and foundlings and altogether over 17,000 children up to 14 years of age are at present under control in Lower Austria alone. For the purpose of dealing with foundlings in Vienna, a large up-to-date institution, the "Central Kinder-Heim" (Central Children's Home), has been erected and was recently opened by the emperor. It consists of a large building, capable of accommodating 410 children, besides 280 wet-nurses and mothers, and 54 nurses. The institution contains also a pavilion for diseased children, an isolation ward, and a reception ward for foundlings, where they are prepared, washed and brought into a condition of fitness for the home. Special care has been taken to ensure a sufficient supply of light and air to all rooms, and the chimney has been fitted with a smoke-destroying apparatus—the first instance of a large institution being provided with such an appliance in this city. The laundry handles 3,500 pounds of linen daily, and the kitchen prepares food for 600 persons. The elaborate plans, together with the grounds and building, were selected by a commission in which medical men had a deciding vote, and all children who are born in the clinics may have the first opportunity to be received there. Besides the institution negotiates positions for wet nurses, contains an information-bureau for mothers (hitherto a private affair of small associations), and all children controlled by the institute are cared for until they find employment or up to the age of 18.

Pharmacology

BROMIN-IODIN COMPOUND

The Life-History of a Nostrum

A correspondent writes for information concerning a remedy known as Bromin-Iodin Comp., which he says is manufactured by the Bromin-Iodin Chemical Company, formerly of Binghamton, N. Y., but now located in San Diego, California. In THE JOURNAL for Feb. 5, 1898, appeared an article by Dr. C. W. Ingraham, Binghamton, N. Y., entitled "Five Years' Successful Experience with a Special Mode of Treating Pulmonary Tuberculosis." This "special mode" of treatment consisted in using what Dr. Ingraham called "bromin-iodin compound," which he said had the following formula:

Iodin	gr. 1/2
Bromin	gr. 1/14
Phosphorus	gr. 1/100
Thymol	gr. 2/3
Menthol	gr. 2/3
Sterilized oil	fl. dr. 1

This "hypodermic treatment of phthisis" was widely advertised in the late nineties by the Bromin-Iodin Chemical Co., Binghamton, N. Y., and was but one of the innumerable "treatments" for pulmonary tuberculosis that have risen, had their day and, more or less gracefully, retired. It was first sold "to physicians only" for hypodermic administration. In 1906, however, physicians were told by the company that "if we find it impossible to secure your cooperation . . . we will be compelled to do business with the druggists in your locality. . . ." Apparently they found such cooperation impossible, because a leaflet was issued to the laity and the statement was made that they intended to advertise "all over North America in publications of national and international circulation, as well as in local newspapers. . . ." Naturally the laity couldn't be expected to administer this treatment by the hypodermic method and it is not surprising to read that "experiment has proved that the same solution can be taken internally." In addition to the advertising leaflet, the public also was provided with a "pocket calendar good for 200 years" which contained numerous testimonials from physicians laudatory of the "bromin-iodin" treatment. The layman who received one of the leaflets was told that if he was suffering from "asthma, bronchitis, colds, consumption, coughs, eczema, goiter, hay fever, neuralgia, rheumatism . . . also constipation and kidney troubles," and his recovery was "not as rapid as it should be," should, moreover, his physician refuse to use the bromin-iodin compound "it might not be a bad idea to discharge him" and get a physician who would!

At the time this "treatment" was first tried by its "inventor," the results given in fifty cases were: First stage, 90 per cent. cures; second stage, 50 per cent. cures; third stage, no cures, but improvement in several cases; this was in 1895. It now appears that this "treatment" has after a period of "patent medicine" exploitation come back into the "ethical proprietary" field. Presumably a mixture such as that represented by the "formula" did not lend itself to administration by mouth; there was nothing to do, therefore, but enlist the aid of "easy" physicians in furthering its sale.

THE PHARMACOPEIAL CONVENTION OF 1910

No one can predict the ultimate results of the action of the convention which has now passed into history; but for the benefit of those who did not attend the deliberations it may not be amiss to analyze those immediate results which affect the medical profession.

1. *The Election of Officers and the General Revision Committee:* This reflects fairly the composition of the convention, and this was overwhelmingly pharmaceutical. On the general revision committee of 50, there are only about 3 practitioners, and about 6 pharmacologists. The other 41 members are pharmacists or chemists. Professor Remington, the chairman of the last revision committee, was reelected to the same position, and there is every reason to believe that he will endeavor to carry out the intentions of the convention fairly and efficiently.

2. *Delegates:* Delegates of certain government services and other organizations recommended by the trustees were admitted. An attempt to grant recognition to the National Association of Retail Druggists was defeated. The last action may be interpreted largely as a rebuke to the "patent-medicine" activities of the "American Druggists Syndicate."

3. *Number of Delegates from Institutions:* The recommendation of the trustees to restrict each institution to one delegate was defeated. This matter has two sides: The admission of three delegates means that the convention is representative of the individual delegates rather than of the institutions from which they are accredited; it places the medical institutions at a disadvantage; and it gives a very great advantage to the eastern institutions over those which are situated at a greater distance from Washington. On the other hand, it was argued that the eastern pharmaceutical men actually perform the greatest part of the work of revision; and that the three-delegate plan assured a larger convention. On the whole, it appears that the retention of three delegates is to be regretted.

4. *The Re-Formation of the Revision Committee:* The proposition of the trustees was carried to enlarge the general revision committee from 25 to 50; this committee to select from their own number an executive committee of fifteen. The latter are to have the charge and responsibility of the actual work of revision, while the other members will serve in an auxiliary, advisory, and supervisory capacity. It remains to be seen how this new plan will work in practice. If

it is carried out in the spirit in which it was intended—and there is every indication that this will be done—it gives promise of great usefulness. As has often been said, the old number of 25 members was too small to be representative, and too large for effective team work. The new plan secures both objects: The "General Revision Committee" is sufficiently large to really represent the convention—in fact, it makes the convention a permanent body. It can inquire into technical matters; it can advise and supervise; it can discuss questions of policy as they arise; it can help to secure publicity for such discussions; and it can aid in many other ways, and thus carry on the functions which would devolve on the convention if it were in permanent session. The convention has wisely given a very wide latitude to this general revision committee. On the other hand, the "Executive Revision Committee" can now be elected at leisure, each man for his especial fitness for his especial task. Having thus the full responsibility, as well as the full credit, for his part of the work, he will have every incentive to put forth his best individual efforts.

5. *Supplements:* The decennial revision has been justly criticised as too infrequent, at least too inelastic, for these days of rapid progress. This has been remedied by granting authority to the committee "to prepare a supplement to the Pharmacopeia at any time they may deem such action desirable."

6. *Publicity:* The universal demand for adequate publicity of the progress of revision has been met by the necessary instructions to the committee.

7. *Therapeutically Suggestive Titles, and Compound Preparations:* The Committee was instructed to eliminate these as far as possible. This is certainly a step in the right direction.

8. *Biologic Products and Biologic Assays:* The Committee was given authority to admit sera and other biologic products, as also *biologic assays of drugs.* The presence on the revision committee of an eminent serum expert, and of several pharmacologists who have had a large experience in pharmacological assaying, gives assurance that this work will be done scientifically. It was also decided to include in the Pharmacopeia *reagents which are important for clinical diagnosis.*

9. *Other Instructions in the Interest of Physicians:*

(a) Official Abbreviations: These are to be appended to all articles which are used in prescriptions. Their adoption by physicians will be optional, of course, but it will tend to prevent mistakes.

(b) A list of official preparations, in which each article is used, is to be appended.

(c) Doses: The experiment of stating the "average dose," which was made in the last revision, has been found acceptable; but the medical delegates were as a unit against the recognition of official "maximum doses," and a motion to introduce these was lost after a thorough discussion.

The "plan for revising the next Pharmacopeia," submitted by the retiring revision committee, in which the above recommendations were presented, also contained a considerable number of other valuable features of more strictly pharmaceutical interest, all tending to the improvement of the following revision, and all of which were adopted. Indeed, every item of this model report should have been adopted—but it was not to be. One clause only, and that in many ways the most significant, was voted down; namely, that relating to the

10. *Scope of the Pharmacopeia:* It was recommended that "there should not be included rarely used substances or *those whose value and use has not been established.*" Had this recommendation been adopted, and conscientiously carried out, the next Pharmacopeia would have been scientific in its contents as well as in its descriptions. It would have become a useful book medically as well as pharmaceutically. It would have become a guide to scientific prescribing. The reports of the various sections of the American Medical Association, and the replies to the circular sent out by its Committee on the Pharmacopeia, leave no doubt that this restriction was the desire of the medical profession. Teachers of therapeutics and of pharmacology foresaw that a restricted pharmacopeia would encourage a more careful study and a more extended use of the efficient and standard remedies.

The pharmaceutical profession, on the other hand, believed that its interests would be better served if admissions to the Pharmacopeia were governed by commercial expediency rather than by scientific merit. This policy is doubtless short-sighted, for the restriction of our overburdened materia medica is quite as much to the interest of the pharmacist, as of the physician and the public. However, the majority of the pharmaceutical delegates did not see it in this light. Had there been an adequate representation of physicians in the convention, they could doubtless have carried the point. In fact, the arguments for a therapeutically scientific pharmacopeia were so strong that a motion was defeated to substitute the words "value *or* use" as defining the scope. The convention did not care to go on record as discouraging scientific standards of admission! However, the majority were only too glad to avail themselves of the subterfuge of silence, by striking out the entire clause and thus leaving the determination of the scope to the general committee on revision.

This appears to leave the question open, but the committee doubtless understands what it is expected to do in the matter.

If the admissions to the future Pharmacopeia are not to be based on scientific standards; if the wishes of the profession are not to be recognized in its revision, then the book will not be regarded by intelligent physicians as a safe guide to scientific prescribing. The Pharmacopeia will always be important for enforcing standards of purity for drugs, but this practically will be the extent of its usefulness to the medical profession. The much greater field which we hope for it will have to be abandoned should this interpretation of the scope of the Pharmacopeia be accepted by the revision committee, which we trust will not be the case.

Correspondence

A Rapid Stain for Frozen Sections

To the Editor:—I was interested to note in THE JOURNAL (May 14, 1910, p. 1614) the rediscovery of an old method for staining frozen sections with thionin which I published in the *Proceedings of the New York Pathological Society* of 1901 (New series, i, 110). I can add that in an experience of ten years with this and other stains I have seen no reason to change the method as published, and can agree with Dr. Strouse as to its general applicability.

It is also interesting to record that surgeons are beginning to feel that they cannot always make a diagnosis of the exact nature of a tumor during operation, and are calling more and more on the microscopic expert to furnish accurate information. Suitable frozen sections are, in the vast majority of cases, as satisfactory for diagnostic purposes as those made after embedding and sectioning in the usual fashion; but it should be clearly understood that a man must have considerable training in this line of work before his diagnoses become reliable. Experience with thin sections stained with eosin-hematoxylin does not necessarily fit one for a diagnosis on thicker fresh sections.

I cannot, therefore, agree with Coplin, who says in Keen's "Surgery" (v, 1208), that "for diagnostic purposes the freezing method cannot be considered satisfactory," but hold with Wilson of Rochester, Minn., that the procedure is most useful and that errors do not occur if reasonable care is taken.

FRANCIS C. WOOD, New York.

To the Editor:—My attention has been called to Dr. F. C. Wood's report in the *Proceedings of the New York Pathological Society*, 1901, new series, vol. i, on the use of thionin as a stain for frozen sections. As I did not refer to this paper in my article on the same subject in THE JOURNAL (May 14, 1910, p. 1614), will you kindly allow me space to express regrets at my inability to find Dr. Wood's report before mine was published, and to state that while my work was independent, all credit for the use of the stain should belong to Dr. Wood?

S. STROUSE, Chicago.

Resolutions Not Adopted

To the Editor:—I notice in the *New York Medical Record* of May 28 an item stating that certain resolutions presented by Dr. G. Frank Lydston to the House of Delegates of the Illinois State Medical Society at its last annual meeting were adopted.

I desire to call attention to the fact that this statement is not true. The facts are these: Dr. Lydston presented the resolutions to the House and moved their adoption. While this motion was pending a motion was made and carried to adjourn. The presiding officer declared the motion carried and adjourned the House. After the adjournment, and after most of the delegates had left the hall, a small number, 18 to be precise (20 being a quorum), most of whom I believe were from Chicago, held a meeting and called the second vice-president to the chair. He put the motion on the adoption of the resolutions presented by Dr. Lydston and declared them adopted. This meeting of 18 delegates out of 102 delegates present before adjournment cannot be considered a legal session of the House of Delegates of the Illinois State Medical Society.

E. W. WEIS, Secretary Illinois State Medical Society.

Book Notices

SURGICAL DIAGNOSIS. By Alexander Bryan Johnson, Ph.B., M.D., Professor of Clinical Surgery in the Columbia University Medical College. Vol. III. Cloth. Pp. 708, with 275 illustrations. Price, $6.00. New York: D. Appleton & Co., 1909.

Of the numerous conditions dealt with in the third and final volume of this work, particular mention may be made of the chapters on "Injuries and Diseases of the Spine and Spinal Cord" and on "Traumatic Neuroses" in which these rather obscure conditions to most general practitioners are very clearly described. The tuberculin tests for tuberculosis are considered here, having been purposely omitted from the other volumes in order that the last word might be given concerning their method of application and their value as a diagnostic measure. The dangers attending the conjunctival method are clearly set forth.

In an appendix is found some of the latest information concerning the parathyroid glands, exophthalmic goiter and hyperthyroidism, the status lymphaticus, the serum diagnosis of syphilis, recent improvements in *x*-ray apparatus and *x*-ray technic, and some additional data in regard to the diagnosis of organic lesions of the brain, thus bringing the subjects right up to the time of going to press. There is an index of authors and a very elaborate index of subjects occupying 90 pages. This is one of the best works on general surgical diagnosis that has appeared up to date.

ATLAS ZUR MIKROSKOPISCHEN DIAGNOSTIK DER GYNÄKOLOGIE. Nebst einer Anleitung und erläuterndem Text. Von Priv.-Doz. Dr. Rudolph Jolly, Oberarzt der königl. Universitäts-Frauenklinik zu Berlin. Paper. Price, 17.50 marks. Pp. 83, with 54 illustrations. Berlin: Urban & Schwarzenberg, 1910.

This atlas of the microscopic diagnosis of gynecology by Rudolf Jolly, includes an introduction, the application and technic of the microscopic examinations of specimens, and an explanatory text. The contents have been so systematized and simplified, and generously illustrated with pathologic sections with both high and lower power reproductions, that they are quite as invaluable to the general practitioner as to the gynecologist. The entire field of gynecologic pathology is covered, including plates of chorionic villi and decidual cells, mucous membrane and epithelium of the normal uterus, and the various stages of normal menstruation. It is illustrated with 52 exceptionally good colored plates. The explanatory notes are concise, and their meaning is clear. The author begins with the physiologic conditions, gradually develops into the simple, then the more complicated pathology, and finally brings out the differentiations. Each illustration, however, is complete in itself. The clearly defined lines drawn between the early malignant and benign growths is sufficient to make a valuable place for the work in the doctor's library.

The book is well worth possessing, even by those who do not read German, for the illustrations alone. Those who read German with difficulty will find that the book is written in a simple, easily comprehended style.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 28, 1910:

Pierson, Robert H., capt., left Vancouver Barracks, Wash., for duty at target range near Proebstel, Wash.

Oliver, Robert T., E. S. D. S., left Fort Hamilton, N. Y., en route to Fort Totten, for temporary duty; arrived at Fort Totten same date.

Walkup, Joseph O., 1st lieut., M. R. C., left Fort Snelling, Minn., with Battery D, 5th Field Artillery, en route to maneuver tract, Sparta, Wis.

Keefer, Frank R., lieut. col., relieved from duty at Fort Wadsworth, N. Y., and ordered to West Point, N. Y., for duty as surgeon and professor of Military Hygiene, relieving Lieutenant Colonel Charles M. Gandy, Medical Corps.

Hill, Eben C., lieut., sick leave extended 1 month.

Hess, Louis T., major, relieved from duty at Fort Leavenworth, Kan., and ordered to Fort Hamilton, N. Y., for duty.

Fuller, Leigh A., major, relieved from duty at Fort Hamilton, N. Y., and ordered to Fort Leavenworth, Kan., for duty.

Lambie, John S., Jr., lieut., relieved from further duty in the Philippines Division and assigned to duty as surgeon of the U. S. A. T. *Sherman*, with station at San Francisco.

Whitney, Walter, 1st lieut., M. R. C., left Fort McPherson, Ga., en route to U. S. Rifle Range, Waco, Ga., for duty with 3rd Battery, 17th Infantry.

Woodall, William P., capt., is assigned to the command of the one-half of Co. A, Hospital Corps, which is to participate in the camps of instructions at Fort D. A. Russell Target and Maneuver Reservation, Wyo., and Fort Riley, Kan., July 18 to Sept. 15, 1910.

Grant, William P., capt., on arrival at San Francisco, will proceed to St. Paul, Minn., and report in person to the commanding general, Department of Dakota, for duty as chief surgeon of that department.

Connor, Clarence H., capt., after arrival at San Francisco, and on expiration of leave of absence will proceed to Fort Brady, Mich., for duty at that post.

Van Kirk, Harry H., 1st lieut., M. R. C., relieved from duty at Fort Levett, Me., and directed to proceed to Manila, P. I., for duty on transport sailing from San Francisco about Aug. 5, 1910.

Wall, Francis M., 1st lieut., M. R. C., relieved from duty at Fort Michie, N. Y., and directed to proceed to Manila, P. I., for duty on transport sailing from San Francisco about Oct. 5, 1910.

Huff, John Van R., col., ordered to inspect hospital and medical departments at Forts H. G. Wright, Terry and Michie, N. Y.; Mansfield, R. I.; Trumbull, Conn.; Adams and Greble, R. I.; Rodman, Banks, Andrews, Strong, Warren and Revere, Mass.

Wallace George S., 1st lieut., M. R. C., detailed as instructor of infantry officers of the organized militia of the State of Texas, Camp Mabry, Austin, Tex., June 6 to 11, 1910.

Graham, George D., dental surgeon, returned to Fort Des Moines, Iowa, from leave of absence.

Macy, Frederick S., lieut., granted 14 days' leave of absence.

Bingham, E. G., capt., reports relief from duty as Attending Surgeon, Headquarters, Department of California, San Francisco.

Long, Charles J., dental Surgeon, reported for duty at Fort Adams, R. I.

Shugerman, Harry P., 1st lieut., M. R. C., is relieved from duty at the Army Medical School in this city; he will proceed to his home and on arrival report by telegraph to The Adjutant General of the Army for further orders.

Medical Corps, U. S. Navy

Changes for the week ended May 28, 1910:

Pleadwell, F. L., surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the summer conference at the Naval War College, Newport, R. I.

Halton, E. P., acting asst-surgeon, ordered to duty at the Naval Hospital, Narragansett Bay, R. I.

Public Health and Marine Hospital Service

Changes for the week ended May 25, 1910.

Pettus, W. J., asst.-surgeon general, granted 1 day's leave of absence, May 24, 1910.

Banks, C. E., surgeon, granted 1 day's leave of absence, May 24, 1910.

Young, G. B., surgeon, detailed to represent the Service at the sixty-first annual meeting of the American Medical Association, to be held in St. Louis, June 7-10, 1910.

Lavinder, C. H., P. A. surgeon, granted 3 days' leave en route in Europe, under Paragraph 189, Service Regulations.

Korn, W. A., P. A. surgeon, granted 14 days' leave of absence from June 21, 1910.

Long, J. D., P. A. surgeon, directed to proceed to Philadelphia, Pa., on special temporary duty.

Lloyd, B. J., P. A. surgeon, granted 1 month's leave of absence from May 20, 1910, on account of sickness.

Mullan, E. H., P. A. surgeon, relieved from duty at Montreal, Canada, and directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Marshall, R. P., asst.-surgeon, relieved from duty at Delaware Breakwater Quarantine Station and directed to proceed to Honolulu, Hawaii, and report to the chief quarantine officer for duty.

Diaz, Jose A., acting asst.-surgeon, granted 30 days' leave of absence, without pay, from May 15, 1910.

Duncan, Wm. A., acting asst.-surgeon, granted 30 days extension of leave from April 4, 1910, on account of sickness.

Dunn, James, acting asst.-surgeon, granted 12 days' leave of absence from June 1, 1910.

Slamberg, N. L. A. K., acting asst.-surgeon, granted 30 days' leave of absence from May 25, 1910.

Tarbell, B. C., acting asst.-surgeon, granted 1 day's leave of absence, June 19, 1910.

Thornton, M. J., acting asst.-surgeon, granted 1 day's extension of leave, May 8, 1910, on account of sickness.

Wakefield, H. C., acting asst.-surgeon, granted 13 days' leave of absence from June 13, 1910.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

WARMED ANESTHETIC VAPORS

To the Editor:—Please give authorities in regard to the use of warmed anesthetic vapors or gases. ANESTHETIST.

ANSWER.—

Haun: "Advantages of Warming Chloroform for Anesthesia," München. med. Wchnschr., Nov. 26, 1907, No. 48.

Gwathmey, J. T.: "Warm versus Cold Anesthetics," New York State Jour. Med., February, 1908; abstr. in THE JOURNAL, April 4, 1908, p. 1150.

Report of the Anesthetic Commission of the American Medical Association, THE JOURNAL, Nov. 7, 1908, p. 1572 et seq.

McRoberts, W. J.: "An Advance in Anesthetic Technic," Northwestern Lancet, Aug. 15, 1909; abstr. in THE JOURNAL, Sept. 18, 1909, p. 970. This paper describes the method and the apparatus used for administering the warmed anesthetic.

DENTAL ANALGESIC

To the Editor:—As all country doctors have more or less extraction of teeth to do, it would be of interest to more than the writer if you would kindly publish formula for a safe and efficient analgesic. Please state amount to be injected. A. E. L.

ANSWER.—The following solution for injection for the production of local anesthesia is recommended by an authority on dental materia medica and therapeutics:

R	gm. or c.c.		
Cocainæ hydrochloridi	3		gr.v
Sodii chloridi	25	or	gr.iv
Aquæ destillatæ	30		ʒj

M. Sig: Cocain injection for dental purposes; to each c.c. add 1 drop of epinephrin solution (1-1000) when used.

For pain after extraction, cotton saturated with chloroform or ether may be applied to the cavity.

Marriages

HARVEY GORDON MCNEIL, M.D., to Miss Mary Jenks, both of Los Angeles, May 12.

THOMAS HENRY LEGG, M.D., to Miss Evelyn C. Repp, both of Union Bridge, Md., May 18.

EMILE E. DELANNEY, M.D., to Miss Margaret Mendenhall, both of South Omaha, May 14.

ARTHUR J. BOOKER, M.D., DesMoines, to Miss Daisy Deane Walker, of Indianapolis, May 12.

CHARLES REUBEN MCCREERY, M.D., Tacoma, to Miss Bertha F. Harris, of Seattle, May 14.

ALBERT E. BERNSTEIN, M.D., Detroit, to Miss Fannie Schomberger, of Traverse City, Mich., May 14.

EDGAR S. EVERHART, M.D., Crabtree, Pa., to Miss Madaline Lee Christian, of Richmond, Va., May 24.

CHARLES C. HEADLEY, M.D., Holloway, Ohio, to Miss Margarbetta Clemens, of Moorefield, O., May 11.

DANIEL JOHN KEELAN, M.D., Montgomery, Vt., to Miss Angeline Poronto, of Enosburg, Vt., May 10.

JOHN EGERTON CANNADAY, M.D., Charleston, W. Va., to Miss Margaret Stuart Roller, of Harrisonburg, Va., May 11.

ED HENRY SPIEGELBURG, M.D. Hot Springs, S. D., to Miss Maud Lee Talbott, of Boise, Idaho, at Hot Springs, May 9.

Deaths

Henry Sayles Kilbourne, M.D. University of Michigan, Ann Arbor, 1865; a member of the American Medical Association; who served as contract surgeon in the United States Army during the Civil War and at intervals thereafter until 1875, when he was appointed assistant surgeon in the regular establishment; was made captain in 1880; promoted to major in 1894; served during the Spanish-American War with troops at Tampa, Fla., and as chief surgeon of the Second Division, Fifth Army Corps in Cuba during the Spanish-American War; was promoted to Deputy Surgeon General with the rank of Lieutenant Colonel in 1903, and was retired from active service, Aug. 14, 1904; died at his home in Washington, D. C., May 16, aged 69.

Daniel Mayer, M.D. Eclectic Medical Institute, Cincinnati, 1869; of Charleston, W. Va.; a member of the American Medical Association, and formerly president of the West Virginia State Medical Association; a surgeon of volunteers during the Civil War, and at one time state commander of the G. A. R. of West Virginia; who was appointed by President McKinley consul-general to the Argentine Republic; died in the Jewish Hospital, Cincinnati, May 20, from nephritis, aged 73.

Oliver Payson Rex, M.D. Jefferson Medical College, 1867; hospital steward of the Thirty-third Illinois Volunteer Infantry; and later Major and Surgeon during the Civil War; for several years a lecturer on children's diseases in Jefferson Medical College; a resident of Abington, Pa., and medical director for several years of the Penn Mutual Life Insurance Co.; died May 16, on a steamer in which he was returning home from the Mediterranean, from pneumonia complicating typhoid fever, aged 63.

F. Gurney Stubbs, M.D. Northwestern University Medical School, 1893; a member of the American Medical Association, Chicago Laryngological and Rhinological Society, and Physicians' Club of Chicago; assistant professor of laryngology and otology in Rush Medical College; professor of laryngology, rhinology and otology in the Chicago Eye, Ear, Nose and Throat College; died in St. Luke's Hospital, May 26, from pneumonia, aged 41.

Frank Monroe Tiffany, M.D. University of Pennsylvania, Philadelphia, 1896; a member of the American Medical Association and a fellow of the American Academy of Medicine; a member of the staff of the Stamford (Conn.) Hospital and Children's Home; consulting physician to the Stamford Day Nursery, and physician in charge of St. John's Church and Home; died at his home in Stamford, May 18, from cancer, aged 41.

Clarence Samuel Bartlett, M.D. Dartmouth Medical School, Hanover, N. H., 1902; a member of the American Medical Association and New Hampshire and Massachusetts medical societies; from 1894 to 1906 a member of the staff of the New Hampshire State Hospital, Concord; a member of the Medical staff of the Henry Haywood Memorial Hospital, Gardner, Mass.; died recently at his home in that city, aged 41.

William R. Howard, M.D. College of Physicians and Surgeons, Baltimore, 1879; a member of the Medical Society of the State of New York, and one of the charter members of the Rochester Pathological Society; a member of the staff of St. Mary's Hospital and surgeon to the Buffalo, Rochester and Pittsburg Railway; died at his home in Rochester, May 22, aged 54.

Monroe Griffith Reynolds, M.D. Rush Medical College, 1880; of Aledo, Ill.; a member of the Illinois State Medical Society; and formerly president of the Mercer County Medical Association; representative in the Illinois General Assembly in 1904-1906, and Mayor of Aledo from 1899-1901; died suddenly on his farm near Redwood Falls, Minn., May 13, aged 64.

Rob Roy Kennedy, University of Nebraska, Omaha, 1902; formerly registrar of the State Board of Health, District 41, Nebraska; city physician of Murray, Utah; died in St. Mark's Hospital, Salt Lake City, March 28, from cerebral embolism after an operation for nephrectomy and appendicectomy, aged 35.

Thomas H. Daugherty, M.D. Cincinnati College of Medicine and Surgery, 1866; a member of the Kentucky State Medical Association; for many years a practitioner of Sadieville, Ky., and president of the Sadieville Deposit Bank; died at his home in Georgetown, May 19, from heart disease, aged 63.

Edward R. Perkins, M.D. Hahnemann Medical College, Philadelphia, 1878; a veteran of the Civil War and for more than 30 years a practitioner of Excelsior, Minn.; died suddenly May 21, on a Lake Minnetonka car, while making a professional call, from cerebral hemorrhage, aged 67.

Michael Brinkmann, M.D. University of Marburg, Germany, 1848; surgeon in the German Army in 1848 and 1849, and assistant court physician in 1850; said to have been the first to introduce hydrotherapy in the United States; died at his home in Philadelphia, May 19, aged 84.

Wilton Winston Winget, M.D. Miami Medical College, Cincinnati, 1893; a member of the Oklahoma State Medical Association; died at his home in Nowata, May 14, from the effects, it is said, of a hypodermic injection of medicine administered to cure the morphin habit, aged 41.

Henry Proper Stillwell, M.D. University of Buffalo, N. Y., 1879; a member of the Medical Society of the State of New

York, and vice-president of Schuyler County Medical Society; died at his home in Burdett, April 9, from cerebral hemorrhage, aged 64.

Jacob S. Giltner, M.D. Pennsylvania Medical College, Gettysburg, 1846; medical director of the Army of the Cumberland during the Civil War, and a practitioner of Portland, Ore., since 1866; died at his home, May 18, from cerebral hemorrhage, aged 85.

James Bourne Ayer, M.D. Harvard Medical School, 1873; a member of the American Medical Association; formerly an overseer of the poor at Boston and a member of the State Board of Insanity; died at his home in Boston, May 14, aged 60.

William G. Gardiner, M.D. Toledo, Ohio, Medical College, 1883; formerly demonstrator of physiology and anatomy in his alma mater; a member of the American Medical Association; died at his home in Toledo, May 18, from pneumonia, aged 69.

Thomas Drury Edwards, M.D. University of Tennessee, Nashville, 1884; a member of the American Medical Association, and a specialist in disease of the eye; died at his home in Union City, Tenn., May 16, aged 53.

Martin A. McHenry, M.D. Tulane University, New Orleans, 1882; a member of the Louisiana State Medical Society, and a wealthy and prominent practitioner of Monroe; died at his home in that city, May 15, aged 55.

Edward C. Adams, M.D. Northwestern Medical College, St. Joseph, Mo., 1886; a specialist on diseases of the eye and ear of St. Joseph, Mo.; died in a hospital in that city, May 14, from cerebral hemorrhage, aged 52.

Sidney Bishop, M.D. Bellevue Hospital Medical College, 1873; an honorary member of the Bridgeport (Conn.) Medical Association; died at his home, March 24, in that city, from valvular heart disease, aged 62.

John W. Hebb, M.D. University of Maryland, Baltimore, 1860; a member of the Medical and Chirurgical Faculty of Maryland; died at his home in West Friendship, May 18, from senile debility, aged 71.

Joseph Solomon Morton, M.D. Rush Medical College, Chicago, 1887; a member of the American Medical Association; died while fishing near his home in Vernon, Ill., May 18, from angina pectoris, aged 46.

Francis X. Weil, M.D. University of Pennsylvania, 1869; a member of the Medical Society of the State of Pennsylvania; treasurer of York County Medical Society; died at his home in York, May 20, aged 69.

Joseph C. Kimsey (license, years of practice, Ind.); a practitioner of Steuben County for 54 years; a veteran of the Civil War; died at the home of his daughter in Angola, May 16, aged 90.

John G. Stricklett (license, years of practice, Ill., 1880); a practitioner for 52 years, and a veteran of the Civil War; died at his home in Springfield, May 8, from senile debility, aged 83.

William Dunstone (license, Mich., years of practice, 1900); for 44 years a practitioner of the Copper Country; died at his home in Dollar Bay, Mich., May 18, from senile debility, aged 79.

Newell Allen Dryer, M.D. University of Buffalo, N. Y., 1864; for 40 years a practitioner of Bath, Mich.; died suddenly in Perkins, Okla., April 23, from cerebral hemorrhage, aged 71.

Allen V. Sheridan, M.D. Kansas City, Mo., Medical College, 1899; of Broken Bow, Neb.; formerly of Paola, Kans.; died suddenly in that city, May 16, from heart disease, aged 41.

Frederick S. Gray, M.D. University of Vermont, Burlington, 1882; a member of the American Medical Association; died at his home in Troy, Vt., March 1, from diabetes, aged 53.

Simeon Joseph Gérouard, M.D. Laval University, Montreal, 1890; of Worcester, Mass., died in the Worcester City Hospital, April 3, from lobar pneumonia, aged 40.

Ezra L. Broughton (years of practice, Mich., 1900); of Lansing; died in the Michigan Asylum for the Insane, Kalamazoo, May 5, from arteriosclerosis, aged 74.

A. W. Manchester (license, Iowa, years of practice, 1886); for 35 years a practitioner of Walker; died at his home, May 14, from heart disease, aged 62.

Jacob P. McIntosh, M.D. Eclectic Medical Institute, Cincinnati, 1869; died at his home in Worthington, Ind., April 30, from senile debility, aged 74.

Arthur Wadsworth, M.D. Kentucky School of Medicine, Louisville, 1893; died at his home in Castleton, Ind., May 14, from heart disease, aged 52.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, St. Louis, June 7-10.

American Academy of Medicine, St. Louis, June 4-6.
American Assn. of Medical Milk Commissions, St. Louis, June 6.
American Association of Medical Examiners, St. Louis, June 5-6.
American Gastro-Enterological Association, St. Louis, June 6-7.
American Proctologic Society, St. Louis, June 6.
American Society of Tropical Medicine, St. Louis, June 11.
American Urological Society, St. Louis, June 6-7.
Assn. of Amer. Teachers of Diseases of Children, St. Louis, June 6.
Maine Medical Association, Bar Harbor, June 29-30.
Massachusetts Medical Society, Boston, June 7-8.
Nat. Con. State Med. Exam. and Licensing Bds., St. Louis, June 6.
New Jersey Medical Society, Atlantic City, June 28-30.
North Carolina, Med. Soc. of State of, Wrightsville Beach, June 21.
Wisconsin, State Medical Soc. of, Milwaukee, June 22-24.

AMERICAN PEDIATRIC SOCIETY

Annual Meeting, held in Washington, D. C., May 3-5, 1910

(*Continued from page 1712*)

The President, DR. D. L. EDSALL, in the Chair

SYMPOSIUM ON POLIOMYELITIS

Infantile Poliomyelitis; Its Relation to the Community in Reference to Etiology and Prevention

DR. R. W. LOVETT, Boston: The medical profession of to-day is confronted with the task of making a new literature on the subject of infantile poliomyelitis, and of dealing with the various aspects of the disease as it affects the community. Orthopedic men who have to repair the damage done will be anxious to join hands with the pediatrists in fighting this malady. It is one of the most infectious diseases and is unquestionably on the increase. It is serious enough to warrant greater attempts on the part of health authorities to investigate the conditions under which it occurs. Information obtained in Massachusetts in the past year shows that the death rate is generally from 5 to 15 per cent. Of the patients who survive over four-fifths are permanently paralyzed and many crippled for life. The recognition of outbreaks of infantile poliomyelitis is of recent date. From the time of the report of the first outbreak until 1909 is only thirty years. Sixty-nine outbreaks have been reported all together. The outbreaks of the past five years show that it is not a local condition. The United States shows over one-half of the reported cases. There has been an increase in outbreaks in the last five years in a way not to be explained by increased interest in the disease. There are more in cold than in warm countries. More cases are reported in the United States than in other parts of the world.

It is evident that house-to-house investigations of all outbreaks should be made by competent men. The infectious nature of the disease has been demonstrated in the laboratory by Flexner and others, but I believe the work in the field to be of equal importance. Maps prepared by the State Board of Health of Massachusetts show the distribution of the disease there. One hundred and thirty-six cities and towns were listed according to the prevalence of the disease. Boston is shown by districts.

It is notable that density of population seems to have nothing to do with distribution. Most cases occur in old houses. Prevalence of the disease is shown not to be coincident with deficiency of rainfall. Out of 187 cases, 149 children were paralyzed. There were 48 abortive cases. More males than females were affected. Nearly one-half of the children had been wading or swimming in contaminated water before the onset of the disease. Only 7 per cent. occurred in first year of life, but 87 per cent. in the first ten years. Pain and tenderness occurred in a large percentage of cases. Duration of the paralysis was from three days to three months. No conclusions were drawn from the investigation, the report being entirely a preliminary one, but I think if the investigation

of the disease by health authorities is to be continued it should be so indicated by the representatives of the societies present.

The Clinical Aspects of Poliomyelitis; Types; Communicability; Mortality

DR. L. EMMETT HOLT, New York: There seems to be an alarming increase of epidemics of this disease. The infection, starting in Europe, is spreading over this country and probably over the entire world. There is no essential difference between the two forms of the disease, except as to communicability. The analogy to cerebrospinal meningitis is striking. Virulence is greater when the disease is epidemic, but otherwise they seem identical. The disease varies in severity in different epidemics. The death rate in sporadic cases is much lower than in the epidemic cases. The proportion of abortive cases cannot be estimated at present, but it is probable that the number is quite large. Several cases of transmission by a third party have been noted. The disease is contagious, and under certain conditions highly so, demanding in epidemic forms a strict quarantine. Healthy persons may be carriers of the infection. Contact with persons suffering from the disease, or associated with it, is the medium of infection. The disease seems to vary as to its communicability at different times. I believe that a new name should be sought for the disease, as the term used is not exact, inasmuch as it is not limited to the anterior horns, nor indeed to the cord itself. I suggest the name, epidemic myeloencephalitis.

Experimental Epidemic Poliomyelitis and Its Relation to Poliomyelitis in Human Beings

DR. SIMON FLEXNER, New York: In the last few months it has been demonstrated with certainty that a disease agreeing in clinical type and pathologic features with anterior poliomyelitis can be produced regularly in certain of the lower animals.

[The results of Dr. Flexner's experiments will be found in papers published in THE JOURNAL during 1909 and the present year.]

Paralysis of the Neck and Diaphragm in Poliomyelitis

DR. IRVING M. SNOW, Buffalo: I wish to report such a case terminating in complete recovery in a boy of 4 years. There was pain, tenderness and retention of urine. In a day or two flaccid palsy of the neck occurred. There was complete paralysis of the neck muscles so that patient had no control of the head whatever. Most of the distress, however, was from difficulty in breathing. For ten days he remained in a stationary condition. On the fourteenth day of illness the patient improved, but the neck muscles remained paralyzed. A jury mast had to be employed for some time. I believe that cervical poliomyelitis, affecting only the spinal accessory nerve, is rare, and although paralysis of diaphragm is rare and dangerous, recovery is possible.

The Pathology of Poliomyelitis

DR. ISRAEL STRAUSS, New York, described in detail the lesions found in the disease, demonstrating them by means of many lantern-slides.

This is no longer a disease of doubtful origin, but is unquestionably due to infection. The virus reaches the meninges very early after infection. Infection may take place through the intestinal route. In regard to the experiments in which infection was produced by scarifying the nasal mucous membrane, that would seem to be really introducing the infection directly into the blood. I believe there is a strong resemblance between the virus and that of rabies. I wish to call attention to the interesting relations between the pathologic changes shown and the clinical picture of the disease. Many of the cells in the cord are not affected and can undergo rapid recovery. The extent of the paralysis gives no idea of the extent of the lesion, and I believe that in every case in which the cord is infected the bulb is also affected. The hope of the future is in finding a means for checking the disease before it has attacked the ganglion cells, and of finding the source of infection and preventing its spread.

Treatment for the Amelioration of Permanent or Partial Paralysis by Silk Tendons and Silk Ligaments

PROF. D. FRITZ LANGE, Vienna: In the acute stage, fixation, either in an orthopedic bed or plaster-of-Paris bandages, is a measure to be recommended. After the subsidence of the acute stage a second task develops for the orthopedist—to prevent the occurrence of contractions and interference with the nutrition of the affected muscles. I would warn you especially against rough, hard massage. The muscles may be weakened and injured instead of strengthened in this way.

[His method of employing silk tendons and silk ligaments was demonstrated on a model. He uses a celluloid support to prevent sinking of the arch of the foot and during the night uses a steel support. Where the muscle is too short he lengthens it by means of silk sutures.]

Discussion on Poliomyelitis

DR. B. SACHS, New York: I rather think the name infantile spinal paralysis is the proper one clinically. Perhaps a more proper name from a pathologic standpoint would be polioencephalomyelitis. I consider that time given to massage and electricity in these cases is time wasted; I cannot see that such methods do any definite good, and a great deal more benefit would be attained by early institution of orthopedic measures. The atypical forms of the disease I believe are rare.

A Comparison in Boys and Girls of Weight, Height, Epiphyseal Development

DR. THOMAS MORGAN ROTCH, Boston: The series of charts exhibited here demonstrate that at first boys are heavier and taller than girls, but the girls' weight line crosses the boys' at about 13; the boys' again crosses the girls' at about 17. The line for height shows about the same thing. Age does not readily determine weight and height. Girls are lighter and shorter than boys at birth, but before puberty the girls gain. The charts show the lack of relationship between epiphyseal development and general growth. In grading individuals the epiphyseal development should replace chronologic grading. The child's welfare depends on maintaining a proper equilibrium, and there should be a curriculum adopted to certain stages of epiphyseal development.

The Cytodiagnosis of Tuberculous Meningitis and the Possibility of Recovery

DR. CHARLES HUNTER DUNN, Boston: The child whose illness forms the basis of my paper was a girl of 3 years of age. Father, mother and younger sister are well; brother died of tuberculosis of spine. There is nothing remarkable in previous history. December 5, two days before I saw her, she began to vomit; continued vomiting all day; at 5 p. m. vomiting ceased; next morning she was better and played a little; in afternoon vomited once. Temperature varied from 99 to 100. Increasing apathy was the most noticeable feature. She was a well-developed, well-nourished child, lying on her back, with eyes open, but took little interest in her surroundings; eyes fixed and staring; ptosis of left eyelid; no retraction of head; knee jerks somewhat more lively than normal; moderate Kernig. She was given castor oil and irrigation of colon until the following day. Then she began to cry out. There was marked rigidity of right arm and hand. She was seen again the following day; had had bad night; crying out and twitching of hands; temperature not above 100; apathy more marked; occasional slight internal strabismus; Babinski's sign present. Lumbar puncture; 10 c.c. cloudy fluid obtained; examination showed no fibrin formation; slide count showed 260 lymphocytes per cm., 2 per cent. polynuclears, 96 per cent. lymphocytes, 2 per cent. endothelial cells. With stain for tubercle bacilli several clumps of acid-fast bacilli were found which resembled tubercle bacilli. Positive diagnosis was made and unfavorable prognosis given. The condition cleared up and patient is now perfectly well. The evidence of the presence of the tubercle bacilli, with the other signs, is strong evidence of its being a case of tuberculous meningitis, and I believe we are justified in holding out some hope in these cases. If it were possible to demonstrate the bacilli in every case of lumbar puncture it would be of great value. The pre-

dominance of lymphocytes may be generally accepted as diagnostic. I have endeavored to establish a standard of the number of cells present in the fluid, and have found in sixty cases that the average is between 200 and 400 per cm. Should this be confirmed, it will give additional means of making positive the diagnosis of tubercular meningitis. It might lead to recognition of other cases of recovery in the future.

DISCUSSION

DR. W. P. NORTHRUP, New York: I have had one of these "don't-know" cases myself, but do not think one is justified in feeling sure of this diagnostic method. In my case the patient had all the symptoms of tuberculous meningitis, with increased fluid and increased lymphocytes on lumbar puncture, but the patient suddenly began to get better. Why, I do not know, so I refer to them as "don't know" cases.

DR. F. S. MEARA, New York: I have lately correlated the cases of meningitis in Bellevue for the past three years, and of fifty in which lumbar puncture was done in forty the bacillus was recovered. My results correspond closely with those of Dr. Dunn. One child under 1 year, in whom the bacillus was found in the fluid, improved after some weeks, and it was thought to be a case of recovery, but the child suddenly became worse and died. There were a number of cases of so-called meningismus in which there was slight increase in the cells.

DR. S. M. HAMILL, Philadelphia: I have not formally reported, but in a discussion referred to a case of tuberculous meningitis which I had under my care a few years ago in which the bacilli were recovered in the fluid and in which recovery occurred. There was slight increase of leucocytes and the tubercle bacilli were found. I had not laid particular stress on the case because no animal injections were made and so the final link in the chain of evidence was lacking.

DR. J. P. CROZER GRIFFITH, Philadelphia: Frebinger has reported finding the bacillis in a case in which the patient recovered.

DR. F. S. CHURCHILL, Chicago: The presence of lymphocytes is not sufficient; only the presence of the bacillus is positive proof.

DR. ISAAC A. ABT, Chicago: I believe that patients sometimes recover from tuberculous meningitis. In a case seen in Vienna the diagnosis was made and later, the child having died of another disease, the scars at the base of the brain were shown at autopsy, confirming the clinical diagnosis.

The General Considerations Regarding the Effects of Vaccines

DR. S. M. HAMILL, Philadelphia: Vaccine treatment differs in no way in children from that in adults, except in the matter of dosage. Relatively small minimum doses are generally advocated, but there is considerable difference of opinion as to maximum doses. The impressions one gathers are that it has been demonstrated that localized infections with staphylococcus pyogenes aureus are quickly cured; that generalized infections are favorably influenced; that gonococcal infections are favorably influenced; that in other diseases there is not enough data yet to warrant any striking conclusions.

(*To be continued*)

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-fifth Annual Meeting, held at Washington, D. C., May 3-5, 1910

(*Continued from page 1807*)

Clinical Significance of Transitory Delirium Cordis

DR. GEORGE HENRY FOX: By transitory delirium cordis is meant a transitory but extreme irregularity of the heart, during which the auricular waves disappear from the venous tracings. The paroxysms may be excited by exhaustion, vomiting, exertion or excitement, or they may come on with no apparent cause. In two patients, over 40, the first paroxysms occurred after operations. The heart may be absolutely negative on physical examination between attacks and the diagnosis of a nervous condition made. However, as five of the six patients ultimately developed the permanent form of irregularity with cardiac insufficiency the prognosis should be guarded.

DISCUSSION

DR. JOSEPH H. PRATT, Boston: I have under observation now a case of the type described. The patient is 60; has never had any shortness of breath; he is well between attacks, except that he is nervous; no shortness of breath on exercise. A month or two ago I attended him in one of his attacks. His pulse was very irregular, and varied from 120 to 140 beats per minute. The attack lasted twelve hours. The tracings showed the heart sounds apparently duplicated. This condition might readily be mistaken for a cardiac neurosis.

DR. WALTER B. JAMES, New York: From a study of 150 cases and cardiograms I am convinced that arrhythmia forms an important group of cases which has not been subdivided satisfactorily. There is no question whatever that a great number of these cases depend on auricular fibrillation. I believe that the use of the electrocardiogram is the only means of determining whether this is the case or not.

Relation of Combined Intoxication and Bacterial Infection to Necrosis of the Liver, Acute Yellow Atrophy and Cirrhosis

DR. EUGENE L. OPIE, New York: By the administration of poisons which attack the liver, namely, chloroform or phosphorus, in combination with bacterial infection, it is possible to reproduce the peculiar midzonal necrosis which in man occurs in association with bacterial infection, under conditions which are not fully understood. The same combination of poison and bacteria, apparently acting with maximum intensity, reproduces a lesion resembling acute yellow atrophy in man; necrosis and hemorrhage are followed by regenerative changes. When the poison in association with bacterial infection repeatedly produces relatively slight changes, cirrhosis of the liver occurs and advances much more rapidly than that produced by the poison alone.

DISCUSSION

DR. S. J. MELTZER, New York: The results obtained by Dr. Opie are very practical and important, but I should like to offer a suggestion. His results were obtained by using chemicals on the one side and bacteria on the other. Some years ago I presented a paper before this association in which I pointed out certain facts now generally recognized, namely, that bacteria like the typhoid bacillus or streptococci when introduced into the circulation disappear in a very short time. But if there is a small injury inflicted, then these bacteria will start to develop. In Dr. Opie's experiments it might be the chloroform or the phosphorus that caused this injury.

DR. WILLIAM W. WELCH, Baltimore: Experimental work on cirrhosis of the liver has hitherto been very unsatisfactory, particularly with alcohol. I have never succeeded in producing cirrhosis of the liver experimentally with alcohol. The liver has an enormous regenerative power, and in order to produce cirrhosis we must inhibit this regenerative power. A combination of the action of toxins with something which prevents this regenerative power may give the real explanation of the cause of cirrhosis of the liver.

Development of the Epiphyses of the Hand and Wrist

DRS. T. M. ROTCH and H. W. SMITH, Boston: During the past year work in this direction on boys and youths from 7 to 20 years of age has been carried on with the following results: It has been found that the development of the hand and wrist represents so well that of the other epiphyses of the skeleton that they furnish the best material for the study of epiphyseal development. It has been found that the epiphyses which appear first are the last to unite, so that the lower epiphysis of the radius has proved to be of especial value in this work since it appears so early and unites so late. It has been found that while the appearance of the carpal bones and epiphyses furnish us with an index for the first half of epiphyseal development, the uniting of the epiphyses of the radius, ulna, metacarpal bones and phalanges provide us with a means of establishing an index for the second half of epiphyseal development.

SYMPOSIUM ON INTRACELLULAR FERMENTS

Interpretation of the Metabolic Defects in Diabetes Mellitus

DR. A. E. TAYLOR, Berkeley, Cal.: There are four chief reactions of glucose in the animal body; the formation of glucose from levulose and galactose, and the formation of galactose from glucose; the formation of glycogen from glucose, and the reversed reaction; the formation of fat from glucose; and the combustion of glucose. All are reactions of fermentation. On the basis of the nature of the chemical reactions involved, all are presumably related to different enzymes. Retained fully in true diabetes is the reaction of intramolecular conversion, the formation of glucose from levulose and galactose. More or less completely lost are the power of forming glycogen from glucose, of forming fat from glucose, and of burning glucose, especially the last. In the reaction of formation of glycogen from glucose are two stages known: the stage of disaccharide and of polysaccharide; we do not know where in diabetes the difficulty lies. The loss of the power of forming fat from glucose cannot be studied until we know whether normally sugar is formed from fat in the body. In the case of the loss of the power of burning sugar, it is known that the difficulty lies in the very first stages of the reaction, before the stage of lactic acid. The loss of power of forming glycogen and fat from glucose cannot be dependent on the loss of the power of burning glucose.

The loss of power of burning glucose is physico-chemically to be interpreted as follows: Glucose in alkaline reaction is slowly burned; this is the auto-reaction. The muscles provide a zymase, which is of low activity only. The pancreas, presumably the islands of Langerhans, provide a zymo-excitor, whose action is to multiply greatly the acceleration accomplished by the muscular zymase. A direct analogy is to be found in alcoholic fermentation, where the zymase of the yeast is the enzyme and phosphoric acid the zymo-excitor. Loss of combustion of glucose could be caused by loss in the mass of the muscular enzyme, by loss in the mass of the pancreatic zymo-excitor, or by some disturbance in the reaction. The best investigations indicate that in diabetes of the classical type, the cause is to be found in the pancreas, leading to a more or less complete reduction in the mass of the zymo-excitor.

The Internal Secretion of the Pancreas

DRS. J. H. PRATT and L. H. SPOONER, Boston: Atrophy of the pancreas was produced by ligating the ducts in dogs and cats. Limit of assimilation of carbohydrates decreased 50 per cent. or more in two months after occluding the pancreatic ducts. In a dog kept under observation for one year, diabetes did not develop. There was no definite evidence of compensation on the part of other organs for diminished pancreatic function. Limit of assimilation for glucose was markedly increased by feeding fresh pancreases. In both dogs and cats there was complete disappearance of the islands of Langerhans in atrophied pancreases without the occurrence of diabetes.

Clinical Experiences with the Cammidge Reaction

DRS. D. C. BALFOUR, J. T. PILCHER, B. C. WILLIS and B. F. MCGRATH, Rochester, Minn.: Of 62 patients at operation showing involvement of pancreas, 50 gave more or less "positive reactions. Of 50 cases showing at operation no pancreatic involvement, seven gave more or less "positive" reactions. Of 25 "well" individuals one gave a "positive" reaction. This work served to show the possibilities of error owing to the indefiniteness of what actually constituted a reaction due to great variation in color changes, amount of precipitate, type of crystals and relation of controls. Additional cases studied later were clinically of four classes: I. Cases shown at operation or autopsy to have involvement of pancreas. II. Cases (with abdominal or pelvic lesions) which at operation or autopsy were shown to have no involvement of the pancreas. III. Sick individuals in whom the pancreas were not examined. IV. Apparently well individuals.

Of Group I (pancreas involved), containing 21 cases, 14 were examined before operation. Of these, 6 gave positive reactions. Of the same 21 cases examined five days after the operation 6 were positive, 3 of these having been positive before operation, 1 negative and 2 not previously examined. Eighteen of these cases were examined about the ninth day after operation, and 3 gave positive reactions. These 3 had all been positive at the examination before operation. One had been positive on the second test, and the other two negative.

Of Group II (pancreas not involved), containing 60 cases, 21 were examined before operation. Of these, 14 were positive. Five days after operation all 60 were again examined and 15 were positive. Four of these had been positive before operation and the remaining 11 had not been previously examined. About nine days after operation 55 of these cases were again examined. Fourteen were positive. Of these, 5 had been positive before operation and the remaining 9 not examined before operation. Nine of the 14 cases had been positive five days after operation.

Of Group III (sick persons whose pancreases were not examined) 207 cases were examined. Seventy-three of these were positive. Of these 73 positives 15 were goiter cases (31 goiter cases in all examined), 8 were appendicitis cases, and the remainder were cases of salpingitis, uterine tumors, etc.

Of Group IV (apparently well persons) 17 cases were examined from one to five times each. Of these, 5 were positive.

From the foregoing it is apparent that even where the most elaborate care is exercised to follow the technic of Cammidge's "C" reaction, in the most uniform manner, if knowledge of the clinical histories and other factors of the personal equation be eliminated, the end results, judged by Cammidge's own criteria, must be considered, as a means of diagnosing disease of the pancreas, as both valueless and misleading. There is no apparent clinical relationship between disease of the pancreas and any of the various types of end reaction. It does not seem that the end reactions are artefacts but rather that they indicate actual metabolic variations. The relationship of these changes in metabolism to the welfare of the patient is not apparent.

Discussion on Ferments

DR. FRANCIS P. KINNICUTT, New York: Our observations at the Presbyterian Hospital do not permit me to accept these conclusions. Our work is done most carefully, and the personal equation is eliminated. The examinations are made by one person who is an expert chemist in the laboratory and who has no knowledge of the cases. The specimens of urine are simply sent to him in the laboratory, and the improved Cammidge test is used in all cases. We have tried it very carefully in 127 cases. Among these there were positive reactions in 24, while in the remainder the reactions were negative.

DR. L. A. WILSON: It seems to me that the results are far from proving that a positive test will demonstrate pancreatic lesions. Strange as it may seem, the test was positive in many healthy individuals. In patients with pancreatic lesions the reaction varied greatly. One day they would have a beautiful reaction; during the next twenty-four hours the specimen sent would show no reaction.

Bacteriology of Acute Respiratory Infections

DR. L. EMMETT HOLT, New York: Nearly 1,000 cultures have been made from children, mainly hospital patients, these chiefly from the bronchial secretion. Cultures for the sake of comparison have been made from the nose, nasopharynx and pharynx. The organisms studied have been the pneumococcus, influenza bacillus, streptococcus, staphylococcus, tubercle bacillus and diphtheria bacillus. The persons are classified as: (1) healthy hospital inmates; (2) those suffering from acute illness, non-respiratory; (3) those suffering from mild acute respiratory infections; (4) pneumonia. An attempt has been made to connect the clinical symptoms with the bacteriologic findings. In most cases mixed infections were present. In many the pneumococcus, influenza bacillus or staphylococcus predominated and gave a definite clinical picture, temperature curve, etc. Infection with the *Bacillus*

influenza was usually of a mild type, but with fairly characteristic symptoms and temperature; staphylococcus infections were usually mild, sometimes persistent streptococcus infections are uncommon as a predominant type.

A Clinical Method of Estimating the Coagulability of the Blood

DR. R. D. RUDOLF, Toronto: In this research the glass tubes introduced by Sabrazes and McGowan were used. These are tubes with a caliber of 1.5 mm. and a length of about 7 inches. They are partially filled with blood taken under certain precautions and after a few minutes are broken across at half inch intervals every half or quarter minute and the broken ends are slowly separated. When coagulation has occurred the blood column does not break with the glass as it does until then, but a thread of fibrin remains connecting the two parts of the broken tube.

About five hundred estimations have been made and the results are, under the same circumstances, very constant. No definite variations occur at different times of the day nor in relation to meals. The temperature at which the filled tubes are kept, however, makes a marked difference in the time of coagulation, this varying roughly about one minute for every degree Centigrade.

SYMPOSIUM ON VACCINE THERAPY

The Basic Principles of Vaccine Therapy

This paper by Dr. J. G. Adami, Montreal, will appear in full in THE JOURNAL.

Vaccine Therapy in Typhoid

DR. M. W. RICHARDSON, Boston: Typhoid vaccines are of the greatest value in prophylaxis, and should be made use of by all who are likely to be exposed to the disease. Their use by the general public cannot be expected in the near future. For this result, time and education will be required. Typhoid vaccines properly used will, I feel sure, prevent a large proportion of relapses. The success of vaccines in the treatment of the original disease will depend on the character of the case. Conservatively used they will do no harm and they may be of much assistance. Early diagnosis and early treatment will be, undoubtedly, of great importance.

Effects of Injections of Killed Streptococci in the Living Body

DR. G. H. WEAVER, Chicago: The galactose-killed germs are more active than heat-killed streptococci. In erysipelas they have no effect except in the subacute and chronic cases. In streptococcic complications of the eruptive diseases they have no effect in the acute stage, but in the subacute and chronic stages marked benefit is noted in some cases. The "septic" cases are often benefited. The difficulties in judging the results of injections are very great because of the natural course of the condition treated. Failure in favorable cases may depend on exhaustion of the reactive ability of the body cells, adaptation of bacteria, distortion of the interaction of bacteria and the serum and cells of the body.

Discussion on Vaccine Therapy

DR. FRANK BILLINGS, Chicago: We have used vaccination in various forms of infections at the Presbyterian Hospital in Chicago with satisfactory results in a certain class of cases and very unsatisfactory results in others. In acute infectious diseases with severe clinical course, as pneumonia, typhoid and especially in chronic infectious endocarditis, vaccination certainly seems to do no good, but it does no harm. In genitourinary diseases, if there is a morbid condition of the kidney or ureter, or prostate, or if there is a pelvic condition in which there is a distortion of the bladder and poor drainage, one can continue vaccination forever and not drive the organisms out; but if the physical condition can be overcome, vaccination may cause the organisms to disappear. One may vaccinate forever and ever when there is a typhoid infection of the gall-bladder, without results. In infections of the antrum, unless it is properly drained, vaccination is of no value.

ILLINOIS STATE MEDICAL SOCIETY

Sixtieth Annual Meeting, held at Danville, May 17-19, 1910

(Concluded from page 1809)

Neurologic Conditions of Joint Diseases

DR. ARCHIBALD CHURCH, Chicago: The anatomic relations of joints and muscles which actuate the joints with the general mechanism of the nervous control give rise to certain functional points which are of importance in the consideration of joint disease. In other instances involvement of joints extends to nerve trunks in the vicinity, giving rise to symptoms of distal situation. These considerations are of particular importance in relation to neuritis secondary to joint involvement, this giving rise to neuritis due to the involvement of the filaments of the nerves within the joints and leading to secondary muscle wastings above the joints and secondly to the wasting below the joints when the nerves which pass the joints are implicated. Another group of joint disorders essentially hysterical in character, without any evidence of involvement of joint surface or joint mechanism, present features of distinctive significance. This condition may also be associated with actual joint lesions.

Joint Diseases from the Orthopedic Standpoint

DR. JOHN RIDLON, Chicago: The mechanical treatment of joint diseases is mainly confined to the treatment of tuberculous joints and to the deformities resulting from joint tuberculosis and other infections. In the mechanical treatment of tuberculous joint diseases one must consider the general principles, together with the relative value of fixation, traction, protection during certain stages, and the stimulating value of the use of the joint during other stages of the case. In considering the mechanical corrections of deformed joints, those still diseased are separated from those no longer diseased; and of the latter class which may and which may not be safely corrected without cutting operations other than occasionally subcutaneous tenotomies and myotomies.

Gall-Tract Infection

DR. J. E. COLEMAN, Canton: The great number of unsuspected gall-stones found postmortem show that more care should be observed by the practitioner in the diagnosis of gall-tract infections, which always precede gall-stone and whose symptoms are always attributed to biliousness. Gall-tract infection is first a medical, then a surgical, then a medical disease, and should receive careful medical treatment before and after operation. The case should be referred to the surgeon for operation before adhesions and dangerous complications arise. This makes the operation a very safe one in competent hands. The diagnosis can be aided materially by close observation of the stools of the suspected patient and by watching for evidences of degenerative changes in the heart and blood vessels. The practitioner should see to it that the heart tone is fully restored after operation, and this usually requires months of treatment. The surgeon is often responsible for this not being done by his nihilistic attitude to medicine.

Persistent Infections in Specific Urethritis in Relation to the Penile Urethra

DR. B. C. CORBUS, Chicago: Persistent infections due to congenital abnormalities are common pathologic conditions in genitourinary surgery. Specific urethritis secondary to congenital malformations and localized infections (paraurethral abscess) form some of the most stubborn and persistent types of infections. Careful examinations by means of the modern methods now at our disposal will often reveal their presence. Early treatment based on the pathology of the condition offers the best method of eradicating the infection.

DISCUSSION

DR. L. B. RUSSELL, Hoopeston: Every case of gonorrheal urethritis should be treated early if possible. When I insert the sound I leave it in for ten or fifteen minutes.

DR. B. D. BAIRD, Galesburg: Gonorrhea, if neglected beyond a certain point, should almost be classified with the incurable

diseases. The gonococcus was demonstrated in the urine in one of my cases seven years after the infection.

DR. J. G. FISHER, Danville: I recall the case of a man who had had several attacks of specific urethritis. In July he had chills. I thought they were malarial and treated him for such, but quinin was of no value. By examining his urine I found a bacillus which resembled the colon bacillus. No culture tests were made, but according to the appearance and quantity, and its manner of conducting itself, it seemed to be an infection with the colon bacillus, and by putting him on urotropin the condition was somewhat cleared up. But I found this bacillus over quite a period of time following this, and finally his urethritis cleared up.

DR. CORBUS (closing): In regard to the value of antigonococcic serum and vaccine, the general consensus of opinion seems to be at the present time that they are valuable in systematic infection alone, not in local conditions.

Sympathetic Ophthalmia

DR. E. V. L. BROWN, Chicago: A characteristic infiltration of the iris, ciliary body and chorioid has been found to be constantly present in the first eye and consists of plasma cells. Transfer to the second eye does not take place along the optic nerves or by ciliary nerve irritation, but through the general circulation. The specific microorganism is first present in the general circulation and only becomes localized in the eye after the iris, ciliary body or chorioidea have been damaged by a wound or inflammation. It then first develops sufficient virility to attack the healthy chorioidea, etc., of the other eye. This endogenous theory is revolutionary in character, yet it better explains the peculiar localizations of the disease in the uvea and in certain parts of it than does the prevailing exogenous wound infection theory. The difficulties of diagnosis are great for general practitioners and for specialists alike. Syphilis and tuberculosis must be excluded. The prognosis is not invariably bad. Enucleation should help the second eye. Sodium salicylate in large doses, mercurial inunctions, etc., quiet the tissues, but no operations, no light and less atropin.

The Rationale of Infections of the Nasal Accessory Sinuses

DR. W. L. BALLENGER, Chicago: The etiology of infection and inflammation of the mucous membrane of the nasal accessory sinuses should be studied under two general headings—active causes and predisposing causes. The active cause is almost always a pathogenic microorganism, though in exceptional instances the condition may be due to traumatism, and external violence, caustics, hot irrigations, steam, irritating inhalations, etc. The predisposing causes are numerous, although an obstructed lesion of the nose, especially in chronic infection, is an almost constant factor. In primary acute sinusitis obstructive lesions are not so constantly present.

Early Efficient Surgical Treatment of Skull Fracture

DR. F. C. SCHURMEIER, Elgin: Injuries of the head are never too insignificant for a most careful and painstaking examination. Where there is suspicion of intracranial trouble the patient should be kept under the eye of a competent observer. When the diagnosis of intracranial pressure is made operation should begin at once, if the seat of trouble is surgically accessible. It is never too late to operate, even though clinically it seems useless, and we fail in the attempt to save life. Operation should not stop short of efficiency when the patient's life threatens to cease.

Symptoms and Treatment of Exophthalmic Goiter

DR. CASSIUS C. ROGERS, Chicago: Goiter, tremor, tachycardia are usually present, but one or more may be absent. Other symptoms are mental disturbances, gastrointestinal disturbances, paralysis, impairment of vision, cardiac hypertrophy, cough, nephritis, sweating, etc. Special attention should be given to the female pelvic organs. I have not found an exception in exophthalmic goiter where the patient has not suffered with either amenorrhea, dysmenorrhea or menorrhagia. The ovaries are always large and tender. Not infrequently are these cases operated on and one or both ovaries removed. Invariably this is followed by a severe attack of acute exophthalmus. All acute cases should be considered as medical and never operated on until they have recovered, or until the disease has become chronic. Some cases apparently recover without treatment. There is no rule that can be followed in selecting the cases for operation. All acute cases and all cases with marked heart, liver and kidney changes are unfavorable for operation. The size of the goiter is not an index to the symptoms it may cause. Blood examination is of more value in acute than in chronic thyroidism.

The Study of Mental Disorders

DR. H. DOUGLAS SINGER, Kankakee: The study of psychiatry has been evolving proportionately with the conception of mind. Psychologic factors play a large part in the etiology of insanity. Psychiatry presents its most hopeful outlook as a branch of preventive medicine. The promotion of this work by the study of psychological types of personality requires the cooperation of the medical profession as a whole. There is need of more extensive teaching, and especially of facilities for clinical study in the medical colleges.

Prevention and Treatment of Insanity

DR. EUGENE COHN, Anna: There is urgent need of early treatment in all cases of insanity. It is best that the patient be at once placed in a proper institution. The general practitioner should be able to more readily detect insanity in its incipiency and should vigorously enforce the necessary measures for immediate treatment, for the sooner systematic treatment is begun the better are the chances for recovery. The existence of a sufficient number of psychopathic hospitals should be assured, where the sufferer may receive adequate treatment and observation prior to a formal commitment, by the court to a regular insane hospital or sanitarium. This final measure may not be necessary in many cases, and the patient is thus saved much possible embarrassment.

The Relations and Clinical Significance of Urinary Acidity

DR. HENRY R. HARROWER, Chicago: The study of the urinary acidity and its relations is worthy of much wider attention. Its clinical significance is of importance in all disease conditions, but more especially in the definite and obscure chronic diseases. The acid index is a factor of considerably more importance than has yet been supposed and has an intimate relation with the phenomena commonly found with intestinal putrefaction and autotoxemia. The urinary acidity is not only of importance in diagnosis, but also serves as a valuable guide during the period of treatment. The frequent finding of evidences of kidney irritation would lead us to believe that the conditions causing urinary hyperacidity are important predisposing factors in the causation of nephritis. The test for the degree of acidity is simplicity itself and can be easily accomplished either with a burette or an acidimeter. The clinical indications and therapeutic possibilities suggested by these findings will more than repay one for the slight trouble required in making the tests.

A Practical Measure in the Prophylaxis of Postoperative Cystitis

DR. E. C. DUDLEY, Chicago: During the past two or three years in all cases in which the catheter was used I have followed its use with the instillation of boric acid and argyrol solution. Whenever I have especially anticipated postoperative cystitis I have had the catheter passed at stated intervals and the boric acid and argyrol solutions used. This tentative catheterization may be quite essential since pelvic operations are apt to be followed by partial retention, and since partially retained urine is especially apt to give rise to cystitis. After perineorrhaphy, for example, the rule that the catheter should be avoided when the patient can relieve herself holds good only when natural urination is complete. Since I have applied the routine treatment of postoperative cystitis to the prophylaxis of cystitis, I have observed freedom from infection, and corresponding relief from a frequent distressing and humiliating sequel to pelvic surgery. The results are fully as satisfactory as are those following the application of a silver solution to the eyes of the new-born.

AMERICAN NEUROLOGICAL ASSOCIATION

Thirty-sixth Annual Meeting, held in Washington, D. C., May 2-4, 1910

The President, DR. MORTON PRINCE, Boston, in the Chair

Cerebral Localization from the Point of View of Function and Symptoms, with Special Reference to v. Monakow's Theory of Diaschisis

DR. MORTON PRINCE, Boston: The doctrine of cerebral localization resolves itself into the question whether the localization is of symptoms or of function or whether it is only an anatomic localization of fibers. It too often happens that the formulas of localization do not work in diagnosis. It not rarely happens that clinical and pathologic findings are contradictory. Thus, on the one hand, extensive lesions in one or other of the recognized cortical centers run their course without symptoms, and, on the other hand, focal symptoms, pointing to disease of these centers, develop in cases in which no anatomic alterations are found at autopsy. There is growing dissatisfaction with the currently accepted doctrine of cerebral localization; a feeling that it is in many respects inadequate. The first blow to the traditional localization of function in the cortex was received when Marie launched his attack on the doctrine of aphasia. Whatever the outcome of the reinvestigation of this question shall prove to be, it is evident that the beautifully diagrammatic conceps of the function of language and of aphasic disturbances of this function have been relegated to the scrap heap of the phantasies of science. The fact, I believe, will be found to be that whether the third left frontal convolution, the first and second left temporal convolution or other areas take part in the function of language or not, the function as a whole, as a psychical process, is a widely distributed one in which are engaged many dynamic processes and anatomic "centers," and a lesion of any one of several "centers" may give rise to all modes of aphasic disturbance. The contest has centered largely around the question whether a lesion of Broca's convolution gives rise to the motor type of aphasia and, therefore, whether in this convolution can be localized so much of the language as is lost in this type.

The clinicoanatomic data themselves are contradictory; as, for example: 1. Lesions of the third frontal convolution do give rise to a clinical aphasic syndrome of the so-called motor type. 2. Destruction of Broca's convolution may be accompanied by simple mutism—or pure motor aphasia of the so-called subcortical type. 3. It also appears to be true that in a considerable proportion of cases of aphasia, characterized by loss of the power of word formation and articulation, Broca's convolution has been found intact. In any theory of aphasia as a clinical syndrome, and in any theory of function these discrepancies must be reconciled. Von Monakow, whose clinical experience and pathologic training entitle his views to great weight, points out the inadequacy of the generally accepted doctrine of localization to account for these contradictory phenomena. He believes that there lies some error in the form in which localization is conceived by most clinicians. To-day, as formerly, two sets of experiences stand opposed to one another—the negative and the positive—and invite anew discussion of the doctrine of localization, which has been declared closed by many writers. How can these contradictions be explained? To answer this von Monakow proposes a theory, which is of the greatest interest and challenges examination, known as diaschisis, and which has for its basis the results of experimental investigations. After removal of focal areas in the cortex, certain symptoms are temporary, while others, which are purely local, are permanent. These latter, or residual, symptoms alone represent the function or part of function that is localizable in a given center. So-called focal symptoms are in large part a complicated reaction of unimpaired areas of the central nervous system to the local cortical lesions. By diaschisis is meant a functional, shock-like inhibition of previously uninjured distant areas produced by the dynamic influences of a lesion anatomically connected with such areas. Through the break in the continuity of the conducting associative paths the eccentrically lying brain foci are robbed of their natural sources of stimulation and in part isolated. Only the directly injured elements give rise to the permanent symptoms and secondary degenerations. So far as the theory definitely distinguishes between the localization of symptoms and the localization of function, I think it may be safely insisted on as the only interpretation that can reconcile the facts of clinical and pathologic observation. The diaschisis theory is fruitful in other fields than that of cerebral localization. For example, its possible applications in the explanation of focal symptoms without focal lesions will occur to everyone.

A Report of Three Prefrontal Tumors

DR. F. X. DERCUM, Philadelphia: In the first and second cases, the tumors were inoperable; the third tumor was removed, but was of enormous size, weighing 7¾ ounces. Death occurred 14 days after operation. The symptoms present in the reported cases are of unusual interest. Vague mental symptoms were present in all. Case 1 suggested symptoms not unlike those of profound cerebral exhaustion of a beginning paresis. Headache had never been a marked feature and was elicited only by questioning. It existed only for a short time previous to death; vomiting occurred but once, and that only toward the very close of the illness. There was absence of optic neuritis and any involvement of the visual fields. The only symptom which was at all suggestive was one attack of slight twitching of the left leg and possibly twitching of the left arm which occurred a few days before the patient came under observation; the attack was very brief in duration and was not attended by loss of consciousness. Occasionally psychic vesical incontinence was present. In the second case there was early headache, optic neuritis and vomiting, all the symptoms being typical and marked. The feature of special interest was the slight flattening of the lower half of the right side of the face and the equally slight involvement of the left leg and arm. These symptoms were in all probability due in part at least to indirect pressure. The subjective sensory disturbances, namely pain and the hypesthesia of the left arm and both legs, are somewhat difficult to explain. The occurrence of typical areas of hysterical painful hyperesthesia under both breasts and over both groins must be borne in mind in considering the other sensory symptoms present. The area of hyperesthesia on the left parietal region was also small and resembled in other respects an area of hysterical hyperesthesia, though it was present on the same side as the tumor. The question arises: Was the left hemiparesis, present for a time only, also hysterical in origin?

In Case 3 optic neuritis was pronounced. Headache was scarcely, if at all, present. Vomiting was absent. This case is remarkable for the size of the growth which had probably existed for a long time previous to the seizure which occurred in the summer of 1908. That so large a growth could have been present and the patient still have been able even in a degree to attend to business and ordinary affairs is very remarkable. Finally, the resemblance of the mental symptoms in Cases 1 and 3 to those of paresis is worthy of comment. In Case 1 the patient was placid, indifferent, and did not manifest the least anxiety as to his condition. In Case 3 the patient was at times distinctly expansive, good-humored and not infrequently laughed and joked. In Case 2 the patient, though quiet, complained greatly at times of suffering; at no time was she jocose nor was there any tendency to laughter or hilarity. Indifference to the sphincters was not observed and there were no epileptiform seizures. The eye muscle symptoms made their appearance late and are probably to be referred directly to the frontal lobe lesion; in part they may have been due to the blindness and the absence of fixation. In many respects these cases conformed to the ordinary observations made in prefrontal tumors. This was particularly the case as regards the mental symptoms which were most marked in Case 3, less marked in Case 1 and least in Case 2. Psychic incontinence was pronounced in Cases 1 and 3. Epileptiform seizures were present but once in Cases 1 and 3 and absent altogether in Case 2. Optic neuritis was present in Cases 2 and 3 and absent in Case 1; the swelling was more marked on the side of the tumor in Case 2 and slightly greater on the side opposite the tumor in Case 3. Local tenderness of the skull was present only in Case 2; was on the same side as the tumor but was parietal and not frontal. Finally, it is interesting to note that in none of the cases was there any ataxia.

It should be added that no *x*-ray examination was made in Case 1. In Case 2 an *x*-ray examination was negative. In Case 3 an *x*-ray examination was also negative, save that it revealed some irregularity of the inner surface of the frontal bone on the right side, and also some apparent thinning of the bone. The possible etiologic value of trauma is well illustrated in Case 1.

DISCUSSION

DR. E. W. TAYLOR, Boston: The two main points brought out are interesting. In the first place the mental condition; in the second place the epileptiform seizure. I presume it is generaly accepted that there is no definite type of mental disease to reveal frontal lobe lesion. I recall distinctly a patient in whom the mental symptoms, instead of being apathetic, were precisely the opposite. The man was a young army officer, previously healthy. He was extraordinarily apprehensive; he developed all sorts of phobias, was unable to go into crowded places, buildings and so on, and presented all the appearances of a mental state. He had slight epileptiform convulsions, which I misinterpreted as hysteroid convulsions. He disappeared from view, and if I had not heard his subsequent history I would have regarded him as a psychasthenic patient. He later came under treatment and died. Autopsy revealed an extensive prefrontal tumor, gliomatous in type, very difficult to distinguish from the brain itself. The points of importance are incidence of slight seizure, epileptiform in character, and, secondly, and still more confusing, are the phenomena one so often sees in the neuroses of psychasthenic character.

DR. EDWARD B. ANGELL, Rochester, N. Y.: I have been impressed with the lack of symptomatology of prefrontal tumors. Many of these patients are without headache, nausea, vomiting or any of the motor symptoms, and without any of the hemiplegias or disturbances of one side of the body. The case of a very successful and intelligent business man came under my observation a year ago. He suddenly became apathetic; his family first noticed this because he received news of a disaster with unconcern. Aside from that condition he had no symptoms whatever. He had an attack of influenza and had quite a nasal discharge and an increase in the white blood cells. Here was a case where there was reason for suspecting acute trouble by extension from the nasal chambers. The mental symptoms were not such as to indicate much pressure. When the man died, and it was shortly, it was found that he had a tumor as large as that of Dr. Dercum's patient in the left prefrontal lobe.

DR. HUGH T. PATRICK, Chicago: What was the state of the sense of smell in these cases?

DR. HERMAN H. HOPPE, Cincinnati: I wish to refer to a symptom-complex which obscured the diagnosis in a case in which there were absolutely no general symptoms of brain tumor. The tumor grew from the sella turcica and involved both portions of the frontal lobes. The earliest manifestations were in reference to the optic thalamus. This man went on with business after developing atrophy of the optic nerve; then he began to develop sluggishness of the pupils. In the subsequent history there was a pure simple dementia, so much so that the diagnosis of dementia paralytica was made. The man died in the insane hospital and autopsy revealed the tumor.

DR. GEORGE JACOBY, New York City: I saw the patient in the case reported by Dr. Dercum and, after seeing and comparing it with two others I had previously seen, it seems to me that we can be very positive that there is no pathognomonic series of symptoms of prefrontal tumors. One way in which diagnosis can be made is by sequence of symptoms or symptoms dependent on pressure. The occurrence of aphasia and involvement of the motor tract and the significance of reflexes are also helpful and indicative of the associated pressure.

DR. E. E. SOUTHARD, Boston: I have found that in some cases it is profitable to examine histologically other parts of the brain than those directly involved in the tumor. I recall a case of tumor of the prefrontal lobe in which epilepsy did not exist but in which there was a unilateral paralysis on the same side as the tumor, and histological study of the precentral gyri showed that for some reason on the opposite side there was absence of cells.

DR. B. SACHS, New York City: I do not know why these tumors are spoken of as prefrontal tumors. There are two points of vital importance in regard to the question of operability. The focal signs in many instances give no idea of the actual size of the tumor and the probable result of an operation. So much depends on shock, which seems to be in direct proportion to the size of the tumor, that one of the most essential points for determining the operability of a tumor is to try to decide whether the tumor is of large size or not and whether the symptoms give one any idea of the size of the tumor. The other points belong to all tumors. A great deal depends on the character of the tumor, particularly in the development of symptoms. There is a great difference in conditions when the brain substance is being invaded by tubercle or sarcoma or when it is being gradually invaded by a glioma; and some of the peculiarities in regard to tumor of the frontal lobe may be explained by the fact that many of these tumors have been slowly invading gliomata, whereas the cases in which the tumor has been much more destructive the symptoms are more marked. The destructiveness of the tumor is in direct relation to the distinctness of the symptoms. I observed a case which had presented during life absolutely nothing else but epileptiform seizures, in which the patient suddenly died from hemorrhage from a tumor which on postmortem examination proved to be a huge glioma involving the entire one hemisphere of the brain. A point we often lose sight of is the different character of the symptoms in relation to different structure of the tumor. Glioma seems to cause fewer symptoms than any other tumor because the brain tissue accommodates itself much more readily to the slow invasion of the glioma.

DR. D. D. WOLFSTEIN, Cincinnati: I wish to refer to a case in which I made the diagnosis of tumor of the frontal lobe. It was in the left frontal lobe and of very large size, but there was absolutely no mental disturbance. The only symptoms were progressive optic atrophy with complete loss of vision. There was a suspicion of epileptiform seizure. Very often these tumors pass far back and tangential fibers which pass through the capsule are involved. Those cases which simulate epileptiform seizures might in this way be explained.

DR. F. X. DERCUM, Philadelphia: In these cases the sense of smell was preserved. In a case which I reported to this association some years ago the sense of smell was destroyed. I think Dr. Southard's position well taken. It seems to me that the epileptiform attacks in these cases were perhaps due to pressure about the base. I am in entire accord with Dr. Sachs' statement in reference to the size of the tumor. The first two cases were round-celled sarcomata; the third was endotheliomata and sprang from the dura of the base. I feel that the term "prefrontal" is justifiable, provided we mean that the tumor has advanced up in front of the motor tract itself.

(*To be continued*)

OHIO STATE MEDICAL ASSOCIATION

Sixty-fifth Annual Meeting, held at Toledo, May 11-13, 1910

(*Continued from page 1809*)

Femoral Hernia

DR. GEORGE F. GOODHUE, Dayton: Congenital femoral hernia is unknown. Before the age of 20 it is exceptional, and in children it is a rarity. A consideration of the anatomic conditions involved in this hernia would lead us to infer that its production must be caused by prolonged strain or violent exertion far beyond the ordinary. The connective tissue sheath enveloping the vessels is strong and unyielding in the young and healthy, which explains its greater prevalence in the weak and aged or those exposed to unusual strain in their daily avocations. The greater size of the canal in women, and the firmer character of the inguinal ring in that sex renders this variety of hernia more common in the female. My method of operating for the relief of this condition, which I believe the safer for the average surgeon, closely conforms to that of Bassini, which consists in fastening Poupart's ligament to the pectineal fascia and muscle and sometimes the falsiform liga-

ment to the same structure by catgut sutures. I wish to emphasize the statement made by Ferguson, that in every case of femoral hernia except in extreme old age or infirmity the patient should be subjected to operation for radical cure. This advice is based on the extreme danger of strangulation in this variety of hernia which much sooner become gangrenous owing to the tense, firm sharp border of the ring. This risk to life must never be under-estimated. Trusses—barbarous in every variety—are rarely efficient in this form of hernia. The operation is fraught with little danger and in the hands of experienced surgeons under proper conditions success is assured.

DISCUSSION

DR. F. F. LAWRENCE, Columbus: When strangulation occurs it would be well to consider the possibility of the bladder being engaged in the hernia mass, and to recognize what the hernia contains would be important. It has been my practice to expose the sac, tie it off and drop it, and then try to approximate Poupart's ligament either to the pectineal muscle or fascia, thereby making the space on the side of the femoral vein much smaller.

DR. R. B. HALL, Cincinnati: Of all varieties of hernia the physician is called on to treat the femoral hernia requires most prompt action, for with strangulation the tissues in the sac may become gangrenous in six hours. In one case the vermiform appendix was found in the sac on operation. Recurrence of the hernia would be rare if the technic advocated by Dr. Goodhue were followed out.

DR. G. F. GOODHUE: It is necessary to note the natural course of a descending femoral hernia in order to succeed in reducing the hernia by taxis. I do not think taxis is the proper measure to resort to, except as a temporary expedient, as when the case is seen in emergency or before transporting the patient to a hospital. Another point I wish to emphasize is the desirability of introducing the stitches through the pectineal muscle and fascia well down on the pubic bone, so that the ligament is brought well down over the surface of the muscle and fascia instead of just having the edges approximated.

Instruments Used and Points of Technic of the Major Smith Cataract Operation

DR. D. T. VAIL, Cincinnati, gave a detailed description of each instrument Smith uses in his operation, and related the arguments he presents to prove the advantages of each of these instruments over any other pattern in common use. He also exhibited a complete set of instruments, original and not original, which Smith uses in doing the operation, and gave arguments to prove that these simple instruments meet all the demands which arise in every operation for cataract, whether in or out of the capsule. He mentioned the dangers that an operator invites who attempts to extract cataracts in their capsules by the employment of the ordinary set of instruments, and sounded a note of warning to those who would exercise the courage to undertake the Smith operation, so-called, as a routine practice without thorough knowledge and appreciation of the principles which underlie successful extraction in the capsule.

Prognosis in the Traumatic Neuroses

DR. LOUIS MILLER, Toledo: There are few diseases which have received more attention concerning their prognosis than the wide group of diseases known as the traumatic neuroses; although specialists have been more or less at variance in their opinions on the subject, yet not so much so as general practitioners and often other members of the profession. This is especially true of those cases which are the subjects of litigation. While much of the disagreement may be placed to the blame of the prejudice attending taking sides with the parties in cases, which are the subjects of litigation, all cannot be thus explained. The difficulty lies partly in the inherent complexities of the conditions with which they have to deal, such as exact diagnosis; partly to the confusions of nomenclature. In recent years authors are coming closer together in their views of prognosis, but one still reads opinions which give impressions considerably at variance. In the term traumatic neuroses I include only functional disorders resulting from violence, *i. e.*, hysteria and neurasthenia and states which cannot be separated clinically from them. The disorder has been designated as accident aboulia, traumatic hysteria, traumatic neurasthenia, and other terms, but traumatic neurosis is comprehensive and will probably lead to less confusion if adhered to universally. Admitting then that these neuroses do not constitute a distinct disease entity, but are either neurasthenia or hysteria, or a combination of them, we can say in general that the prognosis is that of those two affections.

Malingering and Its Detection

DR. E. E. GAVER, Columbus: It is in the field of psychiatry or neurology that we encounter the majority of cases of malingering. Malingering is divided into three varieties—exaggeration, substitution and entire simulation. Exaggeration of disease is the most common endeavor, and is usually found in the functional diseases, such as hysteria and neurasthenia. In the organic diseases there is sufficient pain without additions or exaggeration. The substitution of origin of a disease is difficult to detect in a well-trained criminal. Physical defects form a prominent basis for fraudulent substitution of origin. A defective eye, a scar on the head or neck, or defective hearing commonly form the basis for claims. Entire simulation is the real true form of malingering and is the comparatively rare form. Very few attempts to defraud by such means are now successful. Physicians are most concerned in the detection of malingering. The symptoms in nervous diseases most commonly feigned are disturbances of vision and hearing, anesthesia, convulsions, contractions, paralysis, tremors, disturbances of gait, pain and hyperesthesia. The visual malingerer is usually turned over to the ophthalmologist for detection. An ordinary stethoscope is a useful adjunct in detecting any fraud in the claim of deafness. By connecting the stethoscope, either branch of which can be separated at the will of the examiner, in the ears of the patient and operating from behind it is usually a simple matter to conduct sound to either ear singly or simultaneously and with ordinary cleverness in manipulation the operator will reveal hearing in both ears if it really exists. In testing for feigned loss of sensation we must bear in mind the fact that most individuals can nerve themselves to the point of withstanding extreme pain. Defeat, however, is almost certain to follow the unexpected application of painful stimuli, such as the faradic current or some sharp instrument.

It is usually in an effort to play the part of an epileptic that convulsions are feigned. An examination of the subject, if he is a malingerer, will not reveal the scarred tongue and head the result of injury, the pupils will continue to react, and the reflexes are not lost. Paralysis is one of the most common symptoms simulated. Paralysis is usually accompanied by atrophy, changes in the reflexes, electrical reaction of degeneration, vasomotor disturbances. The simulation of tremor is difficult and should be fairly easily detected. A useful test is to place the subject on the belly, and if he can press his toes on the bedding the tremor can be maintained, but should the legs be flexed at the knees the tremor ceases. The more irregular a tremor the less possibility of its being real. There is no known means of determining whether a pain is real or fraudulent. Judgment must be passed on weight of evidence afforded by accompanying symptoms or signs. Continued severe pain soon impairs nutrition and sleep. According to some authorities, pressure over a tender area will increase the pulse rate often as much as 20 beats a minute and in some instances it produces sweating. Disturbances of gait usually carry with them other signs impossible to simulate.

"Pole Ligation" for Exophthalmic Goiter

DR. J. H. JACOBSON, Toledo: In a preliminary report on this method made in October, 1909, I formulated the following conclusions:

1. Ligation of both poles of the thyroid acts first by diminishing the blood supply to the gland, and thus diminishing immediately its activity; secondly, by directly diminishing and preventing the gland secretion from entering the general circulation by way of

the main lymphatic channels and veins which leave the thyroid body at its upper poles; and thirdly, by causing a subsequent atrophy of the gland itself.

2. The pole ligation is much easier to perform than ligation of the thyroid vessels, and may be as effective as a partial thyroidectomy.

3. It does not disturb the blood supply of the parathyroid glands, nor endanger the recurrent laryngeal nerves.

4. Theoretically, at least, and from the simplicity of its performance, it would seem that pole ligation should entirely supplant the operation of simple ligation of the thyroid vessels in Basedow's disease, and in many cases the necessity of partial thyroidectomy.

5. As a preliminary operation to partial thyroidectomy for Basedow's disease it will be found of great value.

6. At present, we are warranted in saying that pole ligation offers the prospect of cure in many cases, and of lasting improvement in others.

7. The operation of pole ligation is a safe one, and in skilled hands should have no mortality.

Subsequent experience with this operation has shown these conclusions to be correct. Theoretically at least it seems that the ligatures should be placed extracapsular, for the reason that the lymphatic vessels of the gland parenchyma empty into those contained within the capsule and that the extracapsular ligature will more effectually stop the gland excretion. We are confronted by many difficulties in estimating the effect or value of any operation for the relief of this disease, particularly as to what constitutes a cure in these cases. All these patients are improved by the operations of partial thyroidectomy, ligation of arteries, or pole ligation. In only a very small number do all the symptoms entirely disappear. It is obvious that the same conditions confront us in estimating the end-results of partial thyroidectomy.

DISCUSSION

DR. JAMES DONNELLY, Toledo: In making the double ligature one can notice, when tying it, that there is immediately a blanching of the gland, showing that there has been considerable decrease in the quantity of blood sent to it. Dr. George W. Crile has shown that the nerve connection has been an element in the successful treatment of the condition.

DR. S. J. FOSTER: While ligation of the artery is theoretically easy, yet at times it has been found very difficult, and the operation now advocated of extracapsular ligation is a distinct advance, because of its ease of execution. Besides, there is practically no mortality and the end-results of the operation promise a great deal.

DR. J. H. JACOBSON: The exact distribution of nerves to the thyroid gland is not known, but reasoning by analogy is the same as in other portions of the body, so that in putting a ligature around the pole, we get the arteries, veins, nerves and lymphatics. I think the lymphatics are the most important. It has been shown that the thyroid secretion gets into the circulation through the lymphatic glands. In many of these cases the lymphatics are found to be enlarged at operation. Cross-section of the glands shows a deposit in them of colloid material.

Pneumonia with Severe Abdominal Symptoms Simulating Acute Disease of the Region

DR. H. J. WHITACRE, Cincinnati: A review of the literature on this subject shows that the condition is by no means infrequent. Surgeons of wide experience and unquestioned ability have committed the error of operating on the abdomen, and the error is at times unavoidable. An incomplete history and physical examination as a rule will be the direct explanation of most errors. These cases usually arise as grave emergencies. The surgeon is called for an acute appendicitis—he finds a history of sudden onset with severe pain and vomiting, an elevation of pulse and temperature, the right rectus rigid, and he neglects all further examination of the patient. There are certain points which will be of value in the diagnosis: (1) The countenance of the patient will not be peritonitic, and there is apt to be some grade of cyanosis; (2) the tongue is moist and not coated; (3) respiration is frequent, out of all proportion to the pulse rate, and costal in type—there is often a definite catch at the end of inspiration; (4) abdominal rigidity is less circumscribed than in appendicitis and is very great—the abdominal wall relaxes for a moment with each inspiration; (5) abdominal sensitiveness may be local, unilateral or general, but is always superficial, deep pressure is not painful; (6) a sudden high temperature (continuous) has been observed very frequently, which is not true in appendicitis; (7) a careful objective examination of all organs is most necessary. The explanation of the abdominal symptoms is not clear. In many cases it seems most probable that the pain, sensitiveness and rigidity are to be explained by an irritation in continuity of the lower six dorsal nerves. Irritation of the seventh, eighth and ninth nerves will cause pain in the epigastrium, and will simulate gall-bladder disease or ulcer of the stomach, while irritation of the tenth and eleventh nerves will cause signs in the appendix region. In other cases, the sensations are purely reflex and result from irritation originating in the lung, which are transmitted either through the costal group or through the vagus to produce visceral pains. The intestinal paralysis which has been prominent in many cases has been explained by some as the result of toxemia; by others, as a reflex disturbance of the splanchnic system.

Prostatectomy

DR. W. D. HAMILTON, Columbus: Experience gives us great confidence in the perineal operation, while for some cases in which the gland has developed considerably at the expense of the intravesical space, so that it may be more accessible from above, the high operation is occasionally of great service. The low operation is anatomically more difficult in the average case, and may be followed by several conditions which may be regarded as unfortunate results: (1) incontinence of urine; (2) stricture of the urethra; (3) urethrorectal fistula; (4) damage to the sexual function; (5) fistula. My first report contained a tabulated list of seventeen patients on whom prostatectomy had been done with 4 deaths. Since the publication of that paper, the operation has been done 43 times in the practice of Dr. Charles S. Hamilton and myself. Of the 43 cases, 9 were for malignant disease, and 34 for benign lesions. Of the malignant cases 8 were adenocarcinoma, and 1 of round-cell sarcoma; of the 9 patients, 3 died, and 6 recovered. Of the 34 benign cases, 4 patients now in the hospital are at various stages in their apparent convalescence. Of the 30 operated on for benign lesions, 3 have died and 27 recovered. This would make a mortality in this latter series, and covering the benign cases only, of 10 per cent. Of the 34 cases it may be of interest to observe that 26 of them were adenofibromata.

(*To be continued*)

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

EMPLOYERS' LIABILITY AND WORKMEN'S COMPENSATION LAWS IN THE UNITED STATES

By Chauncey Rea Burr, M.D.
PORTLAND, ME.

Under the title of "The Federal Compensation Act of 1909," a measure is before Congress which, if passed, will go far to remove our reproach among nations for the indifference with which hitherto we have treated our injured workmen.

It is remarkable that up to the present time no demand loud enough to be heeded has come from the workingman to indemnify his dependents in case of his own death from accident occurring in the line of his employment, or to pension him for permanent disability.

The empire builder, Prince Bismarck, appreciated the worth of the human machine and provided statutory enactment to pay for it when damaged or destroyed. Incidentally he dealt the socialist cause in Germany the hardest blow it has ever had. In the earlier part of the Nineteenth Century the right

of the workmen to redress from accident was that of anyone else, viz.: in order to recover damages, he must prove default on the part of the person who injured him. To prove default on the part of the employer or his agents was often a difficult if not impossible matter even when this was known to exist. The explosion of a steam boiler might not only kill all the witnesses to the accident, but might so alter the surrounding as to render it impossible to secure evidence as to the cause. The industrial expansion of the Nineteenth Century, with a corresponding increase of industrial accidents, and an increase of killed and maimed workmen, swelled the ranks of the destitute and added to the misery and discontent of the submerged classes. Hence it became a matter for the government to investigate. Between the years 1883 and 1900 a series of laws was passed in Germany providing for indemnity against disease, accident or death among workmen; such indemnity to be paid by an assurance society whose solvency was secured by legislation. In 1883 a law for compulsory insurance against loss of wages from sickness was passed, one-third of the cost to be borne by the employers and two-thirds by the workmen. In 1884 a similar law against loss of wages from accident was passed. Five supplementary laws followed and in 1900 all were grouped under one law, which placed the whole burden of compensation for accident on the employer.

In 1889 a law was passed providing for pensions for old age and invalidism, the cost of which was divided between the state, the employer and the employee. The classes who benefit by this insurance are limited to those employed in mines, salt works, quarries, smelters, factories, railways, steamboats, agricultural operations, lumbering and forestry, building trades, breweries, warehouses, butchering, well digging, domestic service, and also seamen, longshoremen, blacksmith, locksmiths, chimney-sweeps and window cleaners. Such persons injured during their work are entitled to free medical treatment, medicine, sick-pay (i. e., two-thirds of the daily wages) and hospital care, if necessary, for a period of thirteen weeks. With the beginning of the fourteenth week the case comes under the care of the "Trade Association," composed of employers and employees engaged in the same industry, which fixes the amount of the indemnity. This varies with the disability. If total, the full amount of the yearly wage is paid as a pension in monthly instalments; if partial, a proportionate amount only is paid, as high, it may be, as two-thirds. Fraud is guarded against by compelling each pensioner to be examined by the trade association physician every six months. Thus pensions may be increased or diminished or stopped altogether, as the condition of the recipient warrants. Should the workman be killed as the result of the accident, the widow, if there is one, is entitled to burial expenses, and twenty per cent. of her late husband's yearly wage during her widowhood. If she remarries she receives a lump sum of sixty per cent. of the yearly wage in full discharge. Each minor child of the deceased is entitled to twenty per cent. of his father's yearly wage till the age of fifteen years; and dependent parents or grandparents are entitled to the same twenty per cent. pension *per capita*.

These laws have proved to be the prototype of most of the European legislation on employers' liability and workmen's compensation, which has been enacted in recent years. Thus Austria legislated on the subject in 1887 and 1888; Norway in 1894, 1897 and 1899; Finland in 1895; Great Britain in 1897 and 1908; Denmark in 1897; Italy in 1898 and 1903; France in 1898 and 1902; Spain in 1900; Greece in 1901; Sweden in 1901; Russia in 1904; Belgium in 1903. One or the other of two principles runs through this legislation. The first may be defined as the principle of the personal liability of the employer to his workman; the second, as the principle of compulsory insurance. Sometimes an attempt is made to combine the two.

In 1908 the United States made her first essay into the field of workmen's compensation for accident. May 30, 1908, an act was passed "granting to certain employees of the United States the right to receive from it compensation for injuries sustained in the course of their employment." The persons eligible under this act are such as are "employed by the United States as artisans or laborers in any of its manufacturing establishments, arsenals or navy yards, or in the construction of river and harbor or fortification work, or in hazardous employment or construction work in the reclamation of arid lands or the management and control of the same, or in hazardous employment under the Isthmian Canal Commission." If such persons die as the result of an accident received in the course of their employment, their dependents shall be entitled to receive for the remainder of the year the same amount that the deceased would have received as wages for the same period.

If the employee shall be "injured in the course of such employment," he shall be entitled to receive for one year thereafter, unless in the opinion of the Secretary of Commerce and Labor he be able to resume work sooner, the same pay as if he had continued to be employed. No payment to be made, if the injury is due to the negligence or misconduct of the employee, nor unless the disability continues for more than fifteen days. Provision is also made for a medical examination of the injured employee at least once in six months, by order of the Secretary of Commerce and Labor.

In this act no distinction is made between partial and total disability. Defective as this law is, it was apparently the opening wedge for more comprehensive legislation. Feb. 10, 1908, a bill "to provide compensation for injuries to employees solely engaged in interstate and foreign commerce, to which the regulative power of Congress extends" was introduced in the House of Representatives by Hon. Adolph J. Sabbath of Illinois. In introducing his bill Mr. Sabbath said: "In the course of an experience of over twelve years on the bench in Chicago, one of the greatest cities in the world, every kind and class of cases were brought before me. My duty not only consisted in enforcing the laws, but in attempting to alleviate the misery and the damages caused by our modern economic system. This last function was impressed on me by the horrible cases of breaking up of families, degradation of the widows and ruin of the daughters, caused by the loss of the father's or brother's earning power. Years and years of litigation, appeals, new trials and all the necessary steps of our modern procedure brought it about that the results of the litigation were wasted; and social degradation of the family, without any fault of their own, ensued. . . . The object of my compensation bill, as of all compensation acts, is to correct what heretofore has amounted to a denial of justice." This bill failed of passage, and on March 15, 1909, Mr. Sabbath introduced a somewhat different measure, entitled, "A bill to require persons carrying on occupations and trades subject to the regulative power of Congress to pay compensation to employees injured, and to change the general law for injuries received on mail routes." This bill, the federal compensation act of 1909, which it is the object of this paper to describe, applies only to the employees of common carriers engaged in interstate and foreign commerce or in transporting the mails, which are subject to the regulative power of Congress. Such common carriers include steam railroads, electric roads, and vessels which convey the mails, express companies and sleeping-car companies operated on a mail route. Whenever the employee of such a common carrier is injured, the latter shall pay the former compensation without requiring an action at law to be brought. The amount of compensation is governed by a schedule annexed to and made a part of the act.

For the purpose of carrying into effect the provisions of the act a commission to consist of three members is established, to be known as the "Federal Commission of Injury Awards." The principal office is to be at Washington, although "whenever the convenience of the parties may be promoted or delay or expense prevented thereby, the commission may hold its sessions in any part of the United States." When an employee is injured or killed, the common carrier must notify the commission, and this in turn notifies the employee or his widow or next of kin of their right to compensation. It then remains for the employee, his widow or next of kin to decide whether they will accept compensation under this act or bring suit for personal damages. It is further provided that in any future

contracts with common carriers for forwarding the mails, the Postmaster General is forbidden to sign such till the common carriers agree to the indemnity stipulations.

The schedule of injury awards is as follows: For death due to injury in the course of his employment the employee's widow or dependent next of kin is entitled to an annual pension of seventy per cent. of the deceased's monthly wages, during their life or while they are entitled thereto; i. e., a widow forfeits her pension by remarriage, or a minor child on reaching a working age. If there is no widow or dependent next of kin, then only the medical, surgical and burial expenses shall be paid. No disability shall be paid for which does not exceed two weeks. For total disability not exceeding six months there shall be paid one-half of the monthly wages for that period, as well as hospital, surgical and medical attendance. For total disability continuing after six months, there shall be paid two-thirds of the weekly wage during the period of said impairment. When the earning capacity is materially impaired through partial disability, one-half of the weekly wage is to be paid. When the earning capacity is slightly impaired, through partial disability, one-fourth of the weekly wage is to be paid; provided that such disability is not covered in the following scale of percentage awards.

The scale referred to deals with the loss or total impairment of certain parts of the body and follows very closely the order given in "Instructions to Examining Surgeons" issued by the Bureau of Pensions, Washington, D. C. The awards, however, are not the same, although in many cases approximate. On the whole they are larger. The scale is too long to give in full, but enough follows to give an idea of its scope. The figures show the percentage of the earnings which will be paid as an annual pension for the stated disability.

SCHEDULE OF AWARDS

Loss of one eye, 40 per cent.; loss of hand, 40; loss of foot, 40 to 50; loss of an arm at or above the elbow or a leg at or above the knee, 45 to 60; loss of either a leg at the hip-joint or of an arm at the shoulder-joint, or so near as to prevent the use of an artificial limb, 40 to 60; loss of thumb, 20; loss of index finger, 06; loss of great toe, 08; ankylosis of shoulder, 30; ankylosis of elbow or knee, 25; ankylosis of ankle or wrist, 20; total deafness of one ear, 25; hernia, 20 to 50.

A distinction is made between the right hand and the left as to their respective values. Thus, "loss of thumb, index, middle and ring fingers" is rated at 25 per cent.; while "loss of thumb, index, middle and ring fingers of right hand" is rated at 40. The difference in value between a right and left hand can only be in a difference of skill between the two, for very few persons are ambidextrous. If therefore a skilled workman who is right-handed, loses his right hand, he loses something more than the hand. He loses skill, the ability to compete with his fellows, the power of earning the same pay. There is in short a loss of competing power as well as a loss of physical power. Everybody recognizes this where the hands are concerned, but it is not so easy to realize when the injury is internal and out of sight. In a given case these separate elements of damage ought to be considered and rated separately before a just estimate of the total damage to the earning power can be arrived at. The bill, however, while not entering in detail on this more extended field, very cleverly covers it by providing one rate when the earning capacity is "materially impaired" and another when it is but "slightly impaired." These are vague terms, but the award is not. On the whole the bill leaves but little to be desired, and Mr. Sabbath is to be congratulated on the masterly way in which he has grappled with the problem, and it is to be hoped that Congress will think likewise and enact the bill into law.

In the last analysis the public will pay the cost of these pensions in increased freight charges or mileage, but it is worth it. As the government pays pensions to its soldiers and sailors and certain of its civil employees, and by this bill, if passed, the railroads to their employees, it is unfair that workmen in general should not under like circumstances have pensions paid them. Perhaps in time this will come here as it has in Germany through the medium of "trade associations." For the purpose of comparison, the following table is appended, which shows what the various nations have done in the way of pensioning their disabled workmen.

TABLE SHOWING THE ACTION OF VARIOUS NATIONS IN THE WAY OF PENSIONING DISABLED WORKMEN

Country.	Total and permanent disability.	Partial and permanent disability.
Germany	An annual pension equal to the full amount of the yearly wage.	Proportionate pension up to two-thirds of yearly wage.
Austria	An annual pension of 0.60 of yearly wage.	A pension of not more than 0.50 of yearly wage.
Norway	An annual pension of about $41.50.	Proportionate pension, but none unless earning power is diminished at least 0.05.
Great Britian.	An annual pension of 0.50 of yearly wage.	Proportionate pension.
Denmark	A lump sum equal to six times the annual wage, but not less than $500 nor more than $1,335.	A lump sum computed on basis of earning power lost.
Italy	A lump sum equal to six times the annual wage, the minimum being $600.	A lump sum equal to six times the amount by which the annual wage has been reduced, the minimum being $100.
France	An annual pension of 0.67 of yearly wage.	An annual pension equal to 0.50 of earning power lost.
Spain	A lump sum equal to two years' wages.	A lump sum equal to one year's wage or work at the same pay as before the accident.
Holland	An annual pension of 0.70 of yearly wage.	Proportionate pension.
Sweden	An annual pension of $83.33.	Proportionate pension, but none unless earning power is diminished at least 0.10.
Russia	An annual pension of 0.67 yearly wage, with permission to commute this for a lump sum equal to ten times the yearly wage in full discharge.	Proportionate pension.
United States...	A lump sum equal to one year's pay (Act of 1908). An annual pension of 0.67 of yearly wage (proposed Act of 1909).	A lump sum equal to one year's pay (Act of 1908). Proportionate pension (proposed Act of 1909).

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—Fourth Weekly Meeting

MIGRAINE

ETIOLOGY: Heredity, age, sex, gout and rheumatism, eye-strain, gastrointestinal disorders, etc.

SYMPTOMS: Premonitory. Sensory symptoms, visual disturbances, photophobia, tingling, numbness of extremities, motor symptoms, paresis, aphasia, "ophthalmoplegic migraine." Headache, location, duration, degree. Nausea and vomiting. Vasomotor symptoms. Course of disease and prognosis.

TREATMENT.

TICS

DEFINITION: Etiology: Age, heredity, associated neurotic taint, emotions, local irritation.

VARIETIES: Facial tic, blepharospasm, mental torticollis, coprolalia. Frequency, character, location and extension of spasms.

Monthly Meeting

Psychotherapy in the Treatment of the Psychoneuroses.
The Diagnosis and Differentiation of Hysteria.
The Diagnosis and Treatment of Epilepsy.

Medicolegal

Illegal Practice of Medicine by "Masseur Doctor"—Texas Law Explained

The Court of Criminal Appeals of Texas says, in Newman vs. State (124 S. W. R. 956), that the evidence showed that said Newman inserted in a local paper an advertisement which read: "Prof. J. M. Newman, the Masseur Doctor, has located," etc. "He is the doctor that cures consumption, appendicitis, as well as all other diseases. Now is your time to be healed. Come and see him while he is here." Soon thereafter he undertook to treat a number of persons for sundry ailments, including warts, fever, kidney diseases, and stammering. Testifying in his own behalf, he stated that he was a doctor and a great one; that he could cure the diseases that the M.D.'s could cure, and the diseases that they could not cure; that he had treated various patients of various ailments, and received pay for his services in so doing; that he never used or prescribed medicine in treating his patients; that he used only the massage treatment; that he only rubbed patients for their ailments, and at no time pretended to be a physician or surgeon; that he did not practice medicine, but was opposed to the use of any medicine to effect cures. It was shown by the clerk that he had filed no license or authority to practice medicine.

Section 10 of the Texas medical practice act of 1907 provides that the act shall not apply, among others, to masseurs, in their particular sphere of labor, who publicly represent themselves as such. A fair analysis of section 13 classifies the practitioners who shall be subject and amenable to the law. First, it includes any one who shall publicly profess to be a physician, and claim to effect cures by any system or method; and, second, those who shall treat or offer to treat any disease by any system or method, or to effect cures thereof, and charge therefor. Evidently the words "system or method" were intended to be wide enough in their scope to reach any and every school of medicine, whether based on the administration of pills, potions, or pellets, or the modern—as many persons believe, excellent—system of osteopathy or massage. The history of legislation on this subject in Texas shows that heretofore the Legislature, in dealing with the practice of medicine, had attempted to classify the different branches, and provide for boards for the different schools. Evidently the ineffectiveness of these laws was brought to public attention, because it is certain that the Thirtieth (1907) Legislature, with a view of closing every avenue of escape on technical grounds, and for the protection of the public health, as well as individual citizens, against the quack faker and charlatan, undertook to provide that any person shall be regarded as a practitioner of medicine who professes for pay to cure any kind of disorder or injury by any system or by any method.

The first statement in the advertisement put out by the accused characterized him as a masseur doctor. He advertised himself to be the doctor, and to cure consumption, appendicitis, as well as all other diseases, and warned the public, "now is your time to be healed." Pursuant to his invitation, many people did call to see him, to be healed of their troubles. Can it be said that this man was not holding himself out as a physician, as one who treated and cured diseases? Can it be said that he did not, in the sense that the Legislature understood this term and method or system of treatment, know he was not exempt on the mere ground that he did not use drugs and medicines or surgical instruments?

He was charged with unlawfully engaging in the practice of medicine without having first registered and filed for record the certificate required by law. He was undoubtedly guilty under all the proof, and a judgment of conviction is affirmed.

Admissibility in Evidence of Testimony as to Statements by Patients

The Springfield, Mo., Court of Appeals says, in the personal injury case of Brady vs. Springfield Traction Co. (124 S. W. R. 1070), that a physician who was called to visit the plaintiff after her injury, in testifying as to the condition in which he found her, was permitted to repeat some statements made by her to him in response to questions asked her by him during the examination. It was claimed that this was hearsay and self-serving, and should have been excluded. It was held in Missouri in the case of Gartside vs. Insurance Co., 76 Mo. 446, that such statements could not be admitted in evidence, but that case was overruled by the case of Groll vs. Tower, 88 Mo. 249, the latter case was followed in the case of Squires vs. City of Chillicothe, 89 Mo. 226, and it has since that time been the settled law of the state that such testimony is admissible. The rule is that a physician in describing the result of an examination of a patient may give statements of the patient made to him in the course of the examination which relate to the condition of the patient at the time and which give the physician information proper for him to have in determining the condition of the patient, but statements made by the patient which relate to her past condition or to the circumstances surrounding the injury or the manner in which she received it are not admissible.

"Insanity" Arising During Progress of Difficulty No Defense

The Supreme Court of South Carolina says, in the assault case of State vs. Coyle (67 S. E. R. 24), that "insanity" arising during the progress of a difficulty, voluntarily brought on by the defendant and as the result of a blow rightfully inflicted by his adversary, should not constitute excuse for his after conduct in such difficulty. The reason which sustains the settled law in South Carolina—that voluntary intoxication is no excuse for crime—applies with great force in a case of this kind. Furthermore, the court considers that the barbarity of the defendant's conduct, in beating and cutting the other party a number of times with a knife, afforded no evidence of irresponsible insanity.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

May 19

1 *The Frequency and Dangers of Fibroids of the Uterus. E. B. Young and J. T. Williams, Boston.
2 Tuberculosis of the Elbow. J. W. Sever, Boston.
3 Rupture of the Uterus in Labor at Term. C. M. Green, Boston.
4 The Treatment of Constipation. M. V. Tyrode, Boston.
5 *Cancer in Massachusetts in 1905. W. F. Whitney, Boston.

1. **Fibroids of Uterus.**—The following conclusions are drawn by Young and Williams from the study of 971 autopsy records obtained from the Boston City Hospital:

1. Fibroids of the uterus occur in from 7 per cent. to16 per cent. of all adult females, and in from 7 per cent. to 22 per cent. of all over thirty-five years of age.
2. The age at which fibroids giving rise to symptoms which demand their removal are most commonly encountered is shown by American statistics to lie between thirty-five and forty-five, and by German figures between forty and fifty.
3. Fibroids may, in the main, be divided into three groups: (a) Fibroids of considerable size, nearly all of which produce symptoms. (b) Fibroid polyps, and submucous fibroids which project markedly into the uterine cavity. (c) Small and symptomless fibroids.
4. In fibroids of considerable or large size complications and degenerations dangerous to life occur in at least 10.5 per cent. and for this reason alone the routine removal of all such tumors is indicated.
5. In submucous tumors and fibroid polyps necrosis occurs in over 43 per cent. and the excision of all such growths is, therefore, indicated.
6. Small and symptomless fibroids are absolutely innocuous and of such frequent occurrence that they may safely be let alone. Such tumors, however, when met with in the course of operations for other conditions, should be removed when feasible, because there is always the possibility that they may increase in size.

5. **Cancer in Massachusetts.**—From the statistics quoted by Whitney it would appear that cancer has really increased in Massachusetts. The rate has rather more than doubled from 1850 to 1875, and almost doubled again from 1875 to 1900. This is true whether the rate for persons at all ages, or persons over thirty years of age, are considered. If the separate sexes and the different decennia of life are compared there is rather more irregularity, but in the main these also give the same result. If the same rate of increase should continue in the future, it is easy to calculate that in 1950 there

would be 6,000 deaths to every million persons living over thirty years of age, against the 1,600 deaths in 1900. For 1850 the cancer death-rate for all persons over thirty years of age is 375 for each million living, while for the year 1900 it is 1,578, a difference between them of about 1,200. This would give an average rate of increase for each five years of 120.

Medical Record, New York

May 21

6 *The Scaphoid Scapula. W. W. Graves, St. Louis.
7 Hygienic Principles of Ventilation. W. A. Evans, Chicago.
8 The Local Hospital Sanitarium as One of the Most Important Phases in the Antituberculosis Crusade. S. A. Knopf, New York.
9 The Recognition of Dementia Præcox. S. P. Goodhart, New York.
10 *Tabes and Muscular Atrophy. E. L. Hunt, New York.
11 Case of Alkaptonuria. C. Mitchell, Chicago.
12 Examination of Duodenal Juice Obtained by the Gross Duodenal Tube. F. v. Oefele, New York.
13 Abrams' Method in the Treatment of Aneurism of the Thoracic Aorta. L. St. J. Hely, Madera, Cal.

6. **Scaphoid Scapula.**—An article on this subject by the same author will appear shortly in THE JOURNAL.

10. **Case of Tabes and Muscular Atrophy.**—The patient whose history is given here by Hunt showed Argyll-Robertson pupils, loss of knee-jerks, presence of the Romberg sign, and great ataxia in all the extremities. At the same time, he showed a progressive muscular atrophy beginning in the hands and extending to the neck and scapular muscles—an atrophy which evinces fibrillary twitchings and a diminished electrical response. It is an atrophy which has advanced with considerable rapidity. Another feature of the atrophy is that it involved not the legs, but the arms, and that it has steadily progressed from the interossei of the hands to the scapular muscles and the face.

New York Medical Journal

May 21

14 Psychotherapy. J. J. MacPhee, New York.
15 Sterility in the Female. C. G. Child, Jr., New York.
16 *Should the Operation for Ruptured Tubal Gestation be Immediate or Deferred? J. E. Summers, Omaha, Neb.
17 Three Years' Experience in General Practice with Bacterial Vaccines. G. H. Sherman, Detroit.
18 Bacterial Treatment of Malignant Disease. H. A. Duncan, Philadelphia.
19 Sensitization of Cancer. J. W. Vaughan, Detroit.
20 Uremia with Terminal Cerebral Hemorrhage. E. P. Magruder, Washington, D. C.
21 *Possibly a Way for Cure of Seminal Vesicle Infection. C. E. Barnett, Fort Wayne, Ind.
22 Serodiagnosis of Syphilis (continued). V. C. Pedersen, New York.

16. Abstracted in THE JOURNAL, April 2, 1910, p. 1158.

21. Abstracted in THE JOURNAL, April 23, 1910, p. 1400.

Kentucky Medical Journal, Bowling Green

May 1

23 Our Duty to Ourselves, Our Patients and Our Fellow Practitioners. J. E. Wells, Cynthiana.
24 The Toxemias of Pregnancy. E. L. Godby, Campbellsville.
25 Early Diagnosis of Tuberculosis. J. H. Chrisman, Owenton.
26 Operative Interference in Acute and Chronic Emergency. H. Grant, Louisville.
27 Diagnosis of Gall-Stone Disease. J. L. Ransohoff, Cincinnati.
28 Four Cases of Appendicitis. J. T. Dunn, Louisville.
29 What is the Doctor Doing? A. W. Cain, Somerset.
30 Idem. J. W. F. Parker, Somerset.
31 When Should a Surgeon be Consulted in Appendicitis? J. T. Dunn, Louisville.
32 Hydatidiform Mole with Remarks. C. C. Garr, Lexington.
33 Pancreatic Diseases. V. Blythe, Paducah.
34 Dividing Professional Fees. M. D. Mann, Buffalo.
35 Indications for Operative Interference in Acute and Chronic Emergency Conditions. H. H. Grant, Louisville.
36 Malarial Fever. C. W. Rogers, Rineyville.

Journal Experimental Medicine, Lancaster, Pa.

May

37 Studies on the Venous Pulse. J. A. E. Eyster, University, Va.
38 *Survival of Engrafted Tissue. C. C. Guthrie, Pittsburg, Pa.
39 *The Changes in the Venous Bloodflow on Administration of Amyl Nitrite. R. Burton-Opitz and H. F. Wolf, New York.
40 Changes Induced in the Blood of Rabbits by Living in an Atmosphere of Water Gas. G. G. Nasmuth and F. C. Harrison, Toronto.
41 *Studies in Edema: Influence of Adrenalin on Absorption from the Peritoneal Cavity. M. S. Fleisher and L. Loeb, Philadelphia.
42 *Carcinoma of Brook Trout (Salvelinus Fontinalis); Its Relation to Ordinary Goiter. D. Marine and C. H. Lenhart, Cleveland, Ohio.
43 The Complement Binding Test in Rabies. J. L. Berry and A. Mann, New York.
44 *Experimental Comparison of Transplanted Tumor and a Transplanted Normal Tissue Capable of Growth. P. Rous, New York
45 The Relation of Combined Intoxication and Bacterial Infection to Necrosis of the Liver, Acute Yellow Atrophy and Cirrhosis. E. L. Opie, New York.
46 *Studies in Water Drinking. C. C. Fowler and P. B. Hawk, Champaign, Ill.
47 The Quantitative Changes in the Proteins in the Blood Plasma of Horses in the Course of Immunization. R. B. Gibson and E. J. Banzhaf, New York.

38. **Survival of Engrafted Tissues.**—The most complete results have been obtained by Guthrie with ovaries in fowls. In auto-intra-abdominal as well as in subcutaneous transplantations, excellent morphologic results have been obtained. In iso-intra-abdominal ovarian grafts between fowls and between guinea-pigs, functional activity, in addition to anatomic structure, has been completely preserved. Evidence of the complete functioning of such transplanted ovaries is afforded by the altered characters in the offspring.

The ovary of a pure bred white hen was removed and in its place an ovary from a pure black hen was engrafted. Subsequently the white hen laid eggs, and on being mated to a pure white cock, such eggs were incubated and from them were hatched white and black chicks. As yet there is no evidence that simple mutilation of the ovary is a factor in these results. In the single case in which degeneration of an ovary engrafted into a fowl has been observed no eggs were laid. Furthermore, all control hens have produced eggs. On the whole, Guthrie says, we may be reasonably certain that ovarian tissue engrafted into fowls, as in these experiments, may develop and preserve its functional powers to a high degree.

Results with testicles are less complete, no offspring having as yet been produced from engrafted testicles. However, morphologically, the results seem as perfect as with the ovaries, engrafted testicular tissue showing a marked growth and normal structure almost four months after the operation. Transplantation of ovaries and testicles with anastomosis of the nutrient blood vessels have not been practiced sufficiently to permit of comparisons or conclusions. Guthrie says that since results are readily obtained in certain animals hitherto employed by the simple method of transplanting there has been no need for the more complicated operation. But there are good reasons for believing that in larger and older animals, as well as under less favorable conditions, successful results will, perhaps, be more certain after transplantation with anastomosis of the blood vessels than after the simpler operation.

39. **Changes in the Venous Blood Flow.**—While the amyl nitrite invariably produced a marked lessening of the arterial blood pressure, the venous pressure retained its normal value in all cases in which the drug was permitted to exert a general effect of ordinary magnitude. When an artificial circulation through the normal leg was established and inhalations of amyl nitrite were given, no changes in the flow of the perfusion fluid could be detected. It appears, therefore, that the vasodilatory effects of this drug are not incited with the help of central nervous structures.

41. **Studies in Edema.**—Fleisher and Loeb found that adrenalin injected intraperitoneally increases the rapidity of absorption of fluid from the peritoneal cavity, independently of whether the solution to be absorbed is hypotonic or hypertonic or is approximately isotonic with the blood serum. The intravenous injection of adrenalin also increases the absorption of fluid, but not so markedly as does the intraperitoneal injection. Adrenalin injected either intraperitoneally or intravenously increases the quantity of sodium chlorid absorbed. The relative absorption of sodium chlorid—the movement from the peritoneal cavity of sodium chlorid, as compared with the movement of water—is slightly increased when 0.85 per cent. of sodium chlorid solution and adrenalin are injected intraperitoneally; but it is diminished when adrenalin is injected intravenously, or when 1.5 per cent. sodium chlorid solution and adrenalin are injected. When distilled water has been injected intraperitoneally, adrenalin decreases the relative amount of sodium chlorid through the kidneys under the influence of adrenalin.

When 0.85 per cent. sodium chlorid solution is injected into the peritoneal cavity, the blood becomes diluted after two hours and a half. When adrenalin is also injected, the dilu-

tion of the blood is less marked, in spite of the increased absorption under the influence of adrenalin. When distilled water is injected into the peritoneal cavity, the blood is diluted equally in control and adrenalin experiments. When 1.5 per cent. sodium chlorid solution is injected, the dilution of the blood is very slight, and in adrenalin experiments it is the same as in control experiments or very slightly greater than in control experiments. The injection of adrenalin causes a temporary increase in the osmotic pressure of the blood, which gradually returns to normal.

In experiments in which 0.85 per cent. sodium chlorid solution was injected intraperitoneally, either with or without adrenalin, there existed a tendency of the peritoneal fluid to attain a greater osmotic pressure than the blood serum. The authors noted a similar condition in cases of general edema in man, in which the osmotic pressure of the ascitic fluid is greater than that of the other edematous fluids or even than that of the blood serum. There exists, therefore, a mechanism that causes the passage of osmotically active substances from the blood or from the tissues into the peritoneal cavity, and that causes the osmotic pressure of the peritoneal fluid to become higher than that of the blood.

The addition of 1.22 per cent. calcium chlorid solution to 0.85 per cent. sodium chlorid solution, increased directly the transudation into the peritoneal cavity merely by inhibiting the absorption.

It follows that adrenalin does not increase the amount of peritoneal transudate found after the intravenous infusion of large quantities of sodium chlorid solution, to which adrenalin has been added, by delaying the absorption from the peritoneal cavity. The increased amounts of peritoneal fluid must be due to increased transudation into the peritoneal cavity; and the adrenalin, in view of its marked effect on absorption from the peritoneal cavity, must increase the movement of fluid into the peritoneal cavity much more strongly than could be assumed from the figures obtained in the infusion experiments.

42. **Thyroid Carcinoma of Brook Trout.**—Marine and Lenhart conclude that the so-called carcinoma of the thyroid of brook trout is, in its early stages at least, nothing more than severe endemic goiter. The possibility that this physiologic hyperplasia may, in some instances, go over into carcinoma is not denied and is in harmony with the more modern views of cancer development. Prevention and cure is favored by adjusting the amount of food and the number of fish to the water supply or by the addition of iodin-containing substances to the water passing through the ponds.

44. **Comparison of Transplanted Tumor and Normal Tissue.**—Rous' paper deals with a comparison of the conditions which determine the fate of transplanted tumor and of a transplanted normal tissue capable of growth. Mouse embryo and mouse-tumor were employed as material. It was shown that individuals differ as hosts for transplanted embryo, some being naturally resistant to its growth, and some favorable, just as is known to be the case where tumor is concerned. The fate of implanted tumor depends directly on whether it elicits from the host a vascularizing stroma. So, too, it is with implanted embryo. Furthermore, mouse embryo, like mouse-tumor, when introduced into rats calls forth a stroma and grows for a brief period.

In attempting to answer the question as to whether individuals favorable (or resistant) to implanted tumor are likewise favorable (or resistant) to implanted embryo, it was shown that the factors of age, nutritive condition, and race, which are potent in determining an animal's status as a tumor-host, act similarly in determining that for embryo. Using embryonic tissue and a method which has proven effective for the production of immunity to implanted tumor, an immunity to implanted embryo was brought about. This immunity manifests itself in the same way as that for the implanted tumor, namely by an absence of the stroma-reaction necessary to life of the engrafted tissue.

Rous believed that these results demonstrate how largely tumor obeys in its adaptation to a new host and growth therein, the general laws regulating a transplanted normal tissue. Besides the phenomena here dealt with, many others that have held the attention of workers with transplantable tumors are probably not peculiar to neoplasms. The present findings emphasize the importance of the tumor-problem as a tissue problem; and they further indicate how essential it is in cancer work to discriminate between characters unique with tumor and those which it possesses in common with normal tissue.

46. **Water Drinking.**—The daily drinking of three liters of water with meals, for a period of five days, by a man 22 years of age, who was in a condition of nitrogen equilibrium through the ingestion of a uniform diet, was productive of the following findings: 1. An increase in body weight, aggregating two pounds in 5 days. 2. An increased excretion of urinary nitrogen, the excess nitrogen being mainly in the form of urea, ammonia, and creatin. 3. A decreased excretion of creatinin and the coincident appearance of creatin in the urine. The decreased creatinin output is believed to indicate that the copious water drinking has stimulated protein catabolism. The appearance of creatin is considered evidence that the water has caused a partial muscular disintegration resulting in the release of creatin, but not profound enough to yield the total nitrogen content of the muscle. The output of creatin is, therefore, out of all proportion to the increase in the excretion of total nitrogen. 4. An increased output of ammonia which is interpreted as indicating an increased output of gastric juice. 5. A decreased excretion of feces and of fecal nitrogen, the decrease in the excretion of fecal nitrogen being of sufficient magnitude to secure a lowered excretion of both the bacterial and the non-bacterial nitrogen. 6. A decrease in the quantity of bacteria excreted daily. 7. An increase in the percentage of total nitrogen appearing as bacterial nitrogen. 8. A lower creatinin coefficient. 9. A more economic utilization of the protein constituents of the diet.

The general conclusion reached by Fowler and Hawk as the result of this experiment is to the effect that the drinking of a large amount of water with meals was attended by many desirable and by no undesirable features.

Mississippi Medical Monthly, Vicksburg

May

48 The Indications and Contraindications for Curettage. G. S. Bryan, Amory.
49 Fibrinous Pneumonia in an Infant. B. S. Hood, Bond.
50 Diagnosis of Pelvic Inflammations. B. H. Durley, Aberdeen.

Lancet-Clinic, Cincinnati

May 7

51 Modern Treatment of Tuberculous Joints. J. L. Porter, Chicago.
52 Sanitation of Barber Shops. G. A. Persson, Mt. Clemens, Mich.
53 Tuberculosis and its Prevalence in Cincinnati. B. F. Lyle, Cincinnati.
54 Section Teaching of Obstetrics. W. D. Inglis, Columbus, Ohio.

Illinois Medical Journal, Springfield

May

55 *Prognosis of Angina Pectoris. F. Forchheimer, Cincinnati.
56 Chronic Colitis. G. D. Kahlo, French Lick, Ind.
57 Fibroma Uteri in the Non-pregnant and Pregnant. A. B. Keyes, Chicago.
58 Perineal Prostatectomy. A. H. Ferguson, Chicago.
59 The Tuberculosis Question in Relation to the Organs of Digestion. F. B. Turck, Chicago.
60 The Resection of Bony Deflections of the Nasal Septum. O. T. Freer, Chicago.
61 The Septal Spur and its Removal. F. G. Stubbs, Chicago.
62 Recent Use of Stovain in Chicago. H. F. Lewis, Chicago.
63 Advance in Therapeutics. C. M. Riley, Alton, Ill.
64 Eye Symptoms in Diabetes. H. Gradle, Chicago.
65 *Diagnosis and Treatment of Plumbism. B. Fantus, Chicago.
66 Neglected Sources of Infection. J. Casey, Chicago.

55. **Angina Pectoris.**—In common with all other observers, Forchheimer finds that angina pectoris is more common in the male than in the female, in the ratio of 63 to 48. The youngest patient in his series of cases was 29 years old, the oldest 76. The longest duration of the recurring syndrome was 17 years, the shortest was found in three who died in the first attack.

Consideration of the various forms of angina pectoris shows the following: In coronary sclerosis there were 56 cases in all; i. e., 29 cases without other appreciable changes in the heart and 27 with other changes. Evidences which Forchheimer considers as pointing to coronary sclerosis are the existence of angina pectoris and certain changes in the aorta or the aortic valves.

In the aorta we find as evidence of sclerosis, some dilatation. Most frequently a soft aortic systolic bruit is detected, which

sets in a little after systole, most commonly combined with an accentuation of the second aortic sound, especially characteristic when the blood pressure is low. Over the aortic area are found systolic bruits, differing much in character, sometimes soft, sometimes harsh, but as a rule unlike those of aortic sclerosis due to other causes. Moreover, the second aortic sound is accentuated, which Forchheimer says is a fairly reliable differential sign between arteriosclerotic changes in the valve and in the ordinary form of aortic stenosis.

In one case of syphilitic endarteritis there existed angina pectoris of a very severe type, the physical evidence of a mitral lesion and of myocardiac insufficiency. In 27 cases which were developed on other diseases, the before-mentioned signs were present. The co-existing diseases were chronic myocarditis in 12, mitral lesion in 6, aortic lesions in 4, obesity of the heart in 4, alcohol, diabetes, chronic nephritis, of each, 2; syphilis and cirrhosis of the liver, 1. Nearly all of these had evidence of arteriosclerosis.

In the cases of angina in which coronary sclerosis alone existed we find three dead in the first attack and seven others dead. Of the latter two died of diabetic complications, one of complicating pneumonia in the status anginosus, death being due to acute cardiac dilatation, one of a cerebral and another of a gastric hemorrhage. So that, in all, in only 6 cases could death be attributed to the coronary sclerosis. The duration of the disease in these cases varied from 16 months to 17 years, and all were males. In the 29 cases of coronary sclerosis there is but one female.

When the obstruction is due to thrombosis or embolism, the attack is usually fatal, either immediately or later on, as the result of changes in the myocardium. The attack is always immediately fatal when one coronary artery is closed. As a rule, death occurs instantaneously where the descending or circumflex branches are completely closed, but occasionally the patient survives for a few days as is shown by myocardial infarcts found post-mortem. Forchheimer's experience leads him to believe that when both cardiac asthma and angina pectoris are present from the onset, the outlook for improvement is very small. But he does not agree with Neubürger who states that in coronary sclerosis there are three stages of myocardial changes, which develop and which are always fatal.

So far as the duration of the disease is concerned, aside from those who died in the first attack, in eight the disease lasted from 1 to 2 years; in four from 2 to 4 years, and in 1 for 17 years. Of those alive, four have had the disease from 8 to 10 years, the same number from 5 to 8 years, and 10 from 4 to 5 years.

65. **Plumbism.**—The three indications in the curative treatment of plumbism are, Fantus says, 1, to stop the introduction of the poison into the system; 2, to favor its elimination; and, 3, to antagonize the disturbances produced by it. To stop the introduction of the poison, usually means prompt change of work, not only temporarily, but permanently. An individual who has once suffered from lead poisoning is extremely susceptible to its recurrence, and recurrence in an aggravated form. In favoring the elimination of lead, our first care should be to obtain free evacuations of the bowels, two or three a day, which are sometimes difficult to obtain owing to the obstinate constipation present. It is a mistake, says Fantus, to use in this condition, purgatives that act largely on peristalsis. The salines, and among them most especially magnesium sulphate, should be used in large and frequent doses. The action of the purgative can best be reinforced by the administration of atropin which antagonizes the intestinal spasm, and the use of large oil enemas which are as useful here as they are in other forms of spastic constipation.

After the bowels have been freely opened, and not until then, potassium iodid should be given in doses of 5 grains (0.3 gm.) three times daily. Its exhibition should be accompanied by the free use of water. Anything that increases metabolic activity favors the elimination of the deposited lead. Sweat baths with or without the use of sulphids are useful. A sulphur bath may be obtained by dissolving six ounces of potassium sulphuret in half a tubful of water. But above all, does daily work in the sweat of the brow, preferably out of doors, answer the indication; and this is the kind of work physicians should advise their patients to take up at least for a while.

Journal Medical Society of New Jersey, Orange

May

67 Dysmenorrhea: Its Significance and Treatment. P. B. Bland, Philadelphia.
68 The Treatment of Acute Inflammation of the Middle Ear and Mastoid Process. G. B. Wood, Philadelphia.
69 The Rational Treatment of So-called Inoperable Uterine Cancer. W. B. Chase, Brooklyn.
70 Autointoxication Resulting from Restricted Diet. W. W. Beveridge, Asbury Park.

Texas State Journal of Medicine, Fort Worth

May

71 Tumors of the Testicle. J. B. Shelmire, Dallas.
72 Neuroretinitis Hemorrhagica. W. A. Rape, Victoria, Tex.
73 The Need for Education on the Question of Sex and Venereal Diseases and Problems Involved. M. M. Duggan, San Antonio.

Surgery, Gynecology and Obstetrics, Chicago

May

74 Pathology and Clinical Significance of Gastric Ulcer. W. C. MacCarty, Rochester, Minn.
75 *Mixed Tumors of the Uterine Body. I. C. Herb, Chicago.
76 Nutritional Changes Occurring in Fibromyoma of Uterus Incident to Pregnancy and the Puerperium. H. D. Fry, Washington, D. C.
77 Relationship Between the Thyroid and Parathyroids. J. Halpenny, Winnipeg, Canada.
78 Forcible Dilatation of the Kidney Pelvis as a Means of Diagnosis. G. L. Hunner, Baltimore.
79 The Operative Treatment of Tumors of the Hypophysis. A. E. Halstead, Chicago.
80 *Necrosis of the Bladder with Exfoliation. R. F. O'Neil, Boston.
81 A Silk Thread as a Guide in Esophageal Technic. H. S. Plummer, Rochester, Minn.
82 Removal of Foreign Bodies from the Bronchi. F. Huber, New York City.
83 Pin Removed from Ascending Division of Left Bronchus with Aid of Fluoroscopic Screen. R. T. Norris, New York.
84 Surgical Knots. O. Borchgrevink, Christiania, Norway.
85 *Measuring the Capacity of the Renal Pelvis. H. W. Baker, Boston.

75. **Mixed Tumors of the Uterine Body.**—Mixed tumors of the uterine body, contrary to those of the cervix, are of infrequent occurrence. Herb found only 8 authentic reported cases, including the one mentioned by her. The youngest patient was 40 years of age. Menstruation had been irregular for 4 years. All the other women were past the menopause, their ages varying from 50 to 62 years. The clinical symptoms, without exception, were pelvic pain, accompanied by a watery or bloody vaginal discharge, which was fetid in some of the cases. The symptoms were of short duration, being from one to six months. A positive and correct diagnosis from curettage was not made. All the women had borne children. All the tumors sprang from the tubal region, except two, which developed in the posterior uterine wall.

They were all single tumors, except Hunziker's, in which there was a hazel-nut size subperitoneal growth which he considered a metastasis. In Penkert's case the tumor, which was 7.7 cm. long and 6.5 cm. wide, sprang from a pedicle scarcely 1 cm. in diameter. In Herb's case the tumor mass extended entirely through the uterine wall; however, it could readily be differentiated from the surrounding musculature. They usually fill the uterine cavity and present an irregular polypoid surface, with dark necrotic areas. They are of rather soft consistency and a grayish or yellowish white color.

Microscopically besides sarcomatous tissue and the different forms of connective tissue, smooth and striated muscle, small cysts, cartilage, and tissue resembling carcinoma may be present. Metastases to other organs or involvement of regional lymph glands were not observed. One patient died of exhaustion seven days after total extirpation. All of the remainder whose histories were followed after operation died from local recurrence within six months, except Lawen's patient, who lived one year.

80. **Necrosis of Bladder with Exfoliation.**—O'Neil claims that necrosis of the bladder occurs as a result, primarily, of interference with the circulation of the organ, aided by bacterial infection. The interference with circulation may be produced by mechanical pressure outside the bladder, or by bacterial inflammation within the bladder wall. The condition is more common in women than in men. The clinical symptoms are vague. Retention (when associated with cystitis) which cannot be relieved with catheter should excite

suspicion. There is a typical cystoscopic appearance by which the diagnosis can be made if the examination is made at a certain time. The prognosis as to life, on the whole, is good in women. In severe cases permanent injury to the urinary function will result. The prognosis in men is good if the membrane is removed. Operative treatment is always indicated in men, occasionally so in women.

85. **Measuring the Capacity of the Renal Pelvis.**—The apparatus devised by Baker consists of a glass burette graduated into c.c. and of 100 c.c. capacity. It is filled with sterile methylene blue solution. A rubber tube leads from the burette, which is fitted into the ureteral catheter by a glass connection. From the top of the burette a rubber tube leads to an air pressure gauge which is fitted with a cautery inflating bulb. With the ureteral catheter in the renal pelvis the bulb is inflated and the fluid is forced into the kidney pelvis under a uniform pressure. When the renal pain occurs, indicating that the kidney pelvis is distended, the reading of the pressure gauge is taken and the amount of fluid which has passed from the burette into the renal pelvis is seen at a glance.

Journal Oklahoma State Medical Society, Muskogee

May

86 Comatose Pernicious Malaria. C. S. Neer, Vinita.
87 Mexico from a Doctor's Standpoint. A. K. West, Oklahoma City.
88 A Legal Decision of Interest to the Medical Profession. Justice Dunn, Supreme Court, Oklahoma.

St. Louis Medical Review

April

89 Diphtheria from the Medical Standpoint. R. J. Bunch, St. Louis.
90 Diphtheria. W. D. Black, St. Louis.
91 The Surgical Treatment of Diphtheria. J. W. Shankland, St. Louis.
92 Diphtheria from the Neurologic Standpoint. H. Unterberg, St. Louis.

Virginia Medical Semi-Monthly, Richmond

May 13

93 Diagnostic Significance of Dyspepsia. S. Lile, Lynchburg.
94 Formation and Duties of Local Boards of Health. H. B. Wood, Philadelphia.
95 *A New Operation for Prolapsus Uteri. C. S. Venable, San Antonio, Tex.
96 Symptoms of Puerperal Sepsis. R. M. Taliaferro, Lynchburg.
97 Inflammation of the Frontal Sinus. A. D. Wood, Bluefield, W. Va.
98 Uncinariasis: Observations on its Spread and Eradication. W. A. Brumfield, Brookneal.
99 Surgery of the Thorax and its Viscera. B. M. Ricketts, Cincinnati.

95. **New Operation for Prolapsus Uteri.**—In Venable's advocated procedure, the uterus is lifted to the lower angle of the abdominal wound, the fundus grasped with the tenaculum forceps and held. The thumb and forefinger of the operator are now passed in front of the broad ligaments on either side, respectively, and approximated behind the uterus. The points of the broad ligament easiest approximated are brought together, or if sufficient relaxation does not present for them to meet, a corresponding point on either side is brought to a point on the postero-lateral aspect of the body of the uterus, exerting sufficient tension to see that if so held the uterine position will be as desired and these are selected as the sites for the introduction of a suture. A half-curved, round needle with chromic gut is then passed from before back through the broad ligament just below the ovarian vessels and carried behind the uterus, entering the wall on the postero-lateral aspect as the fundus rounds off to the body and emerges at a similar point on the opposite side; the broad ligament of the left side is now grasped in the same manner, and the needle passed from behind forward below the ovarian vessels, through the left broad ligament. The operator, still holding the left broad ligament, now passes the needle from before backwatd through the lowest point that it has been ascertained will meet or correspond with a similar point on the opposite side. The needle is then entered into the lateral posterior aspect of the uterus on a line parallel with the suture line above, and emerged at a similar point of exit for the left broad ligament. The suture is then tightened, and if laid correctly the uterus will be swung forward; the tension on the round ligaments producing an anteversion —the sacro-uterine ligaments are made taut and the posterior fornix elevated. If this is the case the hold is relaxed and the posterior surface of the uterus between the points of exit and entrance of the ligature is denuded, as are the portions of broad ligaments that are to come in contact with these denuded surfaces. The suture is again tightened and tied as a mattress suture; the approximated edges of the broad ligament are sutured with continuous catgut in a French needle. The relaxation of the round ligaments may be so great that while this procedure supports the uterus, these are not sufficiently tightened by it, when it will be advisable to add Baldy's procedure or a modification thereof, by fastening the round ligaments behind the fundus with sufficient tension to maintain an antiversion as well as support.

St. Paul Medical Journal

May

100 The Acute Stage of Infantile Paralysis. O. Medin, Stockholm, Sweden.
101 Early Diagnosis of Poliomyelitis. G. W. McIntyre, St. Peter, Minn.
102 The Hospital Laboratory; Special Reference to Diagnosis in Surgical Cases. L. B. Wilson, Rochester, Minn.

Journal of Cutaneous Diseases, New York

May

103 The Elastic Tissue of the Skin. C. J. White, Boston.
104 Multiple Benign Cystic Epithelioma and Multiple Fibroma in the Same Patient. E. W. Ruggles, Rochester, N. Y.
105 Psoriasis with Unusual Symptoms and History. W. F. Breakey, Ann Arbor, Mich.

New York State Journal of Medicine, New York

May

106 Vaccine Therapy in Colon Bacillus Infection of Urinary Tract. F. Billings, Chicago.
107 Vaccine Therapy in Surgical Tuberculosis. L. L. McArthur, Chicago.
108 Treatment of Surgical Tuberculosis by Vaccines. J. MacLeod and N. K. MacLeod, Buffalo.
109 Chronic Glanders Treated by An Autogenous Vaccine. A. T. Bristow and B. White, Brooklyn.
110 Treatment of Pelvic Infections: Special Reference to Bacterial Vaccines. F. L. Oastler, New York.
111 Adequacy of the Present Day Treatment of Syphilis Tested by the Occurrence of Syphilitic Diseases of the Nervous System. J. Collins, New York.
112 The Wassermann and Noguchi Complement-Fixation Tests in Leprosy. H. Fox, New York City.
113 *Has Therapeutics Kept Pace with the Advance of Other Branches of Medical Science? C. W. Dennis, Goshen.
114 Anesthetics and Anesthesia. R. Cordner, Middletown.

113. **Therapeutics and Medical Science.**—The future hope of the therapeutic art as applying to drugs, Dennis believes lies along the following lines: Dropping out of the pharmacopeia hundreds of medicines which are of doubtful utility or which are with difficulty prepared with accuracy or which duplicate each other in their range of action. The state should provide a laboratory in which would be made examination and tests of medicines to determine their strength and purity, and a law should be made prescribing a fine and punishment for offering for sale medicinal substances varying materially from a standard as defined in the U. S. P. In addition, skilled men should be employed to determine physiologically, when possible, the positive effects of drugs most commonly used. More careful observation should be made and recorded by medical men of the effects of medicines clinically; single remedies should be used more frequently; the ready-made prescription should be largely, if not entirely, dispensed with, as it cultivates habits of carelessness and indolence.

Louisville Monthly Journal Medicine and Surgery

May

115 Indications for Operative Interference in Acute and Chronic Conditions. H. H. Grant, Louisville.

Philippine Journal of Science, Manila

December, 1909

116 *Specific Treatment of Carcinoma. A. F. Coca and P. K. Gilman, Manila.
117 *The Cultivation of the Leprosy Bacillus. M. T. Clegg, Manila.
118 Balantidium Coli Infection with Autopsy. F. B. Bowman, Manila.
119 The Difference in Susceptibility to Cattle Plague Encountered Among Cattle and Carabaos. E. H. Ruediger, Manila.
120 Tuberculosis in the Philippines. E. R. Whitmore, Manila.

116. **Specific Treatment of Carcinoma.**—The protoplasmic substances of malignant epithelial tumors in human beings can be injected subcutaneously in large quantities without injurious results. In three cases affected with carcinoma, such

injections given by Coca and Gilman have been followed by the softening and disappearance of tumor masses measuring in diameter from 2 to 4 centimeters. In a fourth case, a rapidly growing lump appeared near the site of the excised cancer two days after treatment. Several days later, when the lump had reached a diameter of 4 centimeters the growth ceased and subsequent microscopic examination showed it to be a firmly encapsulated mass of dying epithelial-like cells. Three other surgically absolutely inoperable cases, in two of which visible amounts of cancer tissue were left unexcised, have remained until now, i. e., for from five weeks to six months, free from recurrence of the disease.

Seven other cases have remained free from a return of the disease for from one to seven months. Two of these were designated as "curable by operation;" three were designated as "probably curable by operation;" and two were designated as "of doubtful curability by operation." In only one case has the disease returned after treatment. In this case the material used for vaccination was rendered inert by too vigorous disinfection. Hitherto no case of sarcoma has come to treatment; however, in view of the failure of the procedure to affect the course of Hodgkin's disease, the outlook for sarcoma is not promising. Tumor cachexia is not increased by the rapid absorption of large quantities of tumor tissue; on the contrary, large injections of tumor material seem to cause the disappearance of the cachexia.

Further experiments seemed to indicate: (1) that the efficacy of the treatment is indirectly proportional to the amount of malignant tissue left in the body, and, within certain limits, directly proportional to the amount of tumor-cell substances injected and to the number of such injections made; (2) that a carcinoma in one individual can be successfully treated with injections of material from a carcinoma of the same kind taken from another individual; (3) that one-half per cent. of carbolic acid does not destroy the "vaccine" within 36 hours if the latter is kept at a temperature of 7 C.

117. Cultivation of Leprosy Bacillus.—Attempts have been made by Clegg to cultivate the leprosy bacillus from the spleens of lepers and from cutaneous nodules in cases of leprosy in 10 instances. In 8 out of the 10 instances an acid-fast bacillus was observed to multiply in successive transplants of the cultures of amebas to which the leprosy material had been added. Control plates of the ameba culture without the addition of leprosy material showed no acid-fast organisms present. By heating such an ameba-cholera-leprosy culture a half hour at 60° C. and incubating, isolated colonies of the leprosy bacillus were obtained which grew readily in pure culture when transplanted to the ordinary laboratory media (nutrient agar, bouillon, coagulated egg medium, etc.).

Guinea-pigs inoculated subcutaneously with the pure culture developed in some instances lesions at the site of inoculation which bear a certain resemblance to the leprous lesions of man, both macroscopically and when sectioned and examined under the microscope. The acid-fast organisms were found at the site of inoculation and in some instances also in the spleen. In one instance the acid-fast organism was cultivated from a lesion in a guinea-pig. These guinea-pigs as well as others which received intraperitoneal injections, invariably died during the third or fourth week after inoculation. Inoculations into monkeys have yielded as yet only negative results. The majority of the lepers from whom the material for these cultures was obtained, had tuberculous lesions in their lungs, but the tissues used for the cultures showed no evidence of tuberculosis. The animal inoculations proved that the acid-fast organism cultivated was not the tubercle bacillus.

Ophthalmology, Seattle, Wash.

April

121 Congenital Absence of the Choroid with Retinitis Pigmentosa. E. W. Alexander, San Francisco.
122 The Extraction of Cataract Within the Capsule. A. Elschnig, Prague, Austria-Hungary.
123 Removal of the Cataractous Lens within its Capsule. J. W. Wright, Columbus, Ohio.
124 Expression of Cataract in the Capsule. D. W. Greene, Dayton, Ohio.
125 Tuberculosis of, and About the Eyes. R. Kerry, Montreal.
126 The Present Status of Calmette's Conjunctival Reaction in the Diagnosis of Tuberculosis. F. P. Calhoun, Atlanta, Ga.
127 Does Optic Atrophy in Tabes Develop from a Disease of the Ganglion Cells or From the Nerve Fibers? H. Rönne, Copenhagen, Denmark.
128 So-called Doubling of the Puncta Lacrimalia. F. T. Tooke, Montreal.
129 Pneumocele of the Lacrimal Sac. R. H. Elliot, Madras, India.
130 Metastatic Panophthalmitis. C. M. Harris, Johnstown, Pa.
131 Phlegmonous Inflammation of the Lids. N. H. Goodenow, Seattle, and E. F. Chase, North Yakima, Wash.
132 Differential Diagnosis of Orbital Affections Occasioned by Sinusitis, Including Report of the Cavernous Sinus. W. Reber, Philadelphia.

Bulletin Johns Hopkins Hospital, Baltimore

May

133 *Experimental Hypophysectomy. S. J. Crowe, H. Cushing and J. Homans, Baltimore.

133. **Experimental Hypophysectomy.**—The authors found in agreement with Paulesco, that a state of apituitarism due to the total removal of the hypophysis leads inevitably to the death of the animal, with a peculiar and characteristic train of symptoms (*cachexia hypophyseopriva*). That these symptoms are not due to surgical trauma or postoperative complications is evidenced by the facts (1) that the same operative manipulations leaving the hypophysis in place and omitting the single step of removal leads to no symptoms whatsoever, and (2) that incomplete removal produces no immediate disturbances. However, even in the case of adult animals death need not occur after a total removal as promptly as Paulesco claimed; puppies may remain in an apparently normal condition for at least three weeks before the terminal phenomena appear. These same symptoms after the same intervals of time, follow the removal of the entire *pars anterior* alone, even though the posterior lobe remains in place. On the other hand, removal of the posterior lobe (necessarily leaving a small amount of *pars intermedia*) not only leads to none of the manifestations of *cachexia hypophyseopriva*, but does not appear to affect the physiologic balance of the animal in any symptomatic way, unless the convulsions and excessive sexual activity which have been seen in a few cases can possibly be ascribed to its absence.

Separation of the hypophyseal stalk, owing to circulatory disturbances, is comparable either to a partial hypophysectomy or to a total removal with immediate reimplantation of the excised tissue elsewhere in the body. The gland becomes reattached and the pathways for posterior lobe secretion (supposed to traverse the *pars nervosa* on its way to the infundibular cavity) may become obstructed by the scar, leading to an accumulation of "hyalin" within the channels of the *pars nervosa*.

Definite constitutional disturbances which may be regarded as manifestations of hypopituitarism have been observed after partial (anterior lobe) removals in a number of animals kept under observation for long periods of time. The most striking feature is a state of adiposity accompanied by (or resultant to?) a secondary hypoplasia of the organs of generation in adults or by a persistence of sexual infantilism in case the primary hypophyseal deficiency antedates adolescence. Polyuria, glycosuria, alterations in the skin and its appendages (such as edemas and hypotrichosis), the tendency to a subnormal body temperature, and psychic disturbances are more or less frequent accompaniments—all of them symptoms which occasionallly occur with states of adiposity and of sexual infantilism in man, in company with certain pituitary body tumors—states, therefore, which presumably are due to hypophyseal (anterior lobe) deficiency.

Animals, in states of hypopituitarism, appear to have a lowered resistance to infection, exposure or disease, conditions which are apt to precipitate the onset of *cachexia hypophyseopriva*. It has been possible, by glandular transplantations, or by injections of anterior lobe emulsion, definitely to prolong the life of animals after total hypophysectomy, and likewise to tide over periods of threatened *cachexia hypophyseopriva* in animals retaining anterior lobe fragments which temporarily may be physiologically insufficient. Boiled anterior lobe emulsions appear to elicit a characteristic (anaphylactic?) febrile response when injected subcutaneously in states of experimental hypopituitarism.

Buffalo Medical Journal

May

134 A Department of Public Health. R. L. Owen, Washington, D. C.
135 The Rational Treatment of So-called Inoperable Uterine Cancer. W. B. Chase, Brooklyn.

Atlanta Journal-Record of Medicine

April

136 End Results of Non-removal of the Appendix in 23 Abscess Cases. R. M. Harbin, Rome, Ga.
137 Stimulation During Anesthesia. W. A. Selman, Atlanta, Ga.
138 Aneurism. H. Ainsworth, Thomasville, Ga.
139 Empyema. W. D. Gaines, Lafayette, Ala.
140 Pellagra. D. N. Sage, Atlanta, Ga.
141 Eclampsia. O. L. Stephenson, Roanoke, Ala.
142 La Grippe. E. P. Green, Hickory Flat, Ala.
143 Increasing Frequency of the Use of Narcotic Drugs by Members of the Medical Profession and the Probable Reasons for It. W. C. Ashworth, Greensboro, N. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

May 7

1 Embryologic Problems in Relation to Medicine. P. Thompson.
2 *Itching Diseases of the Skin and their Treatment. J. L. Bunch.
3 The Practice of Wassermann's Reaction from the Quantitative Standpoint. B. Klein.
4 *Comparative Value of the Various Methods of Antisyphilitic Treatment. C. Gibbs.
5 Progressive Destruction of Teeth Sockets: Chronic General Periodontitis. J. F. Colyer.
6 The Bacillus Influenza and Symbiosis. R. W. Allen.
7 Removal Through the Mouth of a Shawl Pin Impacted in a Secondary Bronchus. S. Thomson.
8 Cerebellar Abscess and Acute Suppurative Labyrinthitis. J. Harper.
9 The Use of Solid Carbon Dioxid. E. R. Morton.

2. **Treatment of Itching.**—According to Bunch, internal treatment should begin by giving preparations of salicylic acid, salol, sodium salicylate, carbolic acid in pill form, arsenic and atropin, or pilocarpin (10 to 20 drops of a 1 per cent. solution). Greater success is usually obtained with sedatives, especially bromid of sodium in combination with cannabis indica, or tincture of aconite with tincture of gelsemium. In more severe cases where insomnia is a marked symptom, hypnotics are necessary. External treatment must, however, always be employed in addition to internal remedies, and one of the simplest and most effective applications is an evaporating lotion. Equal quantities of eau de Cologne and water supplied on lint, or lavender water dabbed on every few minutes, often afford great relief, especially if preceded by hot applications. Sponging with hot water, as hot as can be borne, with or without the addition of bicarbonate of soda, or a hot bath, a vapor or Turkish bath, causes dilatation of the capillaries of the skin, and a subsequent constriction of these vessels induces a more lasting cessation of itching. The addition to a hot bath of oatmeal is usually beneficial. Of cooling lotions the simplest is one containing 2 drams of liquor plumbi subacetatis to 1 ounce of lavender water and 7 ounces of distilled water. One containing hydrocyanic acid, which is very successful, is the following:

	gm. or c.c.		
Dilute hydrocyanic acid	1	5	ʒss
Spirit of rosemary	30	or	ʒi
Glycerin	16		ʒss
Water to	300		ʒx

Carbolic acid made up in a strength of ʒi to ʒx of water with the addition of ʒss glycerin and ʒss eau de Cologne gives a useful lotion, and, if necessary, to any of these lotions, ʒii of cocain may be added to give greater anti-pruritic effect. Alkaline lotions, consisting of either ʒii bicarbonate of soda, ʒii carbonate of potash, or ʒi borax to ʒviii water are all useful for cases where large areas of skin are involved. The addition of a little menthol will increase the effect. Ichthyol, ʒss, sodium bicarbonate ʒiss, spirit of lavender ʒss, water to ʒviii, is a lotion which often gives relief and may be used for weeks without harmful effects.

In pruritus genitalium, and especially pruritus vulvæ, hygienic and dietetic rules must be adhered to. In more usual cases of pruritus vulvæ, where there is a uterine or vaginal discharge, strict cleanliness must be enjoined, with plentiful use of soap and water and douches of 1 in 5,000 potassium permanganate or 1 in 5,000 perchlorid of mercury, or 1 in 1,000 zinc sulphate. After this a vaginal tampon must be inserted and the external parts covered with Lassar's paste containing 1 per cent. silver nitrate. An ichthyol ointment or paste may be substituted or an ointment containing 30 minims of chloroform to 2 ounces of lard, or the ordinary aconitine ointment. An ointment which often gives good results is chloral hydrate, menthol and camphor ää gr. 45, lanolin and vaselin ää ʒss.

The more inveterate cases respond well to applications of a Paquelin cautery, to excision of kraurotic skin areas, or to turning up a flap of skin all around the vulva, and division of the afferent nerve fibers. Pruritus of the anus is usually accompanied by some secondary eczema, with the formation of rhagades and thickening of the skin. Ointments are best used at night, bathed off in the morning with olive oil, and the following powder applied: chloral hydrate, camphor ää gr. 40, starch ʒi. A 20 per cent. solution of ichthyol painted on frequently gives relief. Equal quantities of lime-water and black-wash make an excellent application. In the most obstinate cases a rapid application of the actual cautery to the most irritating areas often causes great amelioration of the symptoms. Application of the high frequency current with a glass electrode is occasionally successful, and cases frequently react well to two or three ½ pastille doses of *x*-rays at intervals of a week. A more permanent cure, and one to be recommended in those intense cases when life has become a misery, is that of surgical operation.

4. **Effects of Antisyphilitic Treatment.**—Gibbs and Bayley endeavored to find out by means of the Wassermann reaction the comparative value of various antisyphilitic drugs and methods of administration in 231 cases. Of 138 cases treated with mercurial pills, 66 had received under six months' treatment, and of these 62 gave a positive reaction (94 per cent.). After this period, however, the effect of mercury is clearly shown. Of 33 cases that had received from six months to a year's treatment, 19 were positive (57 per cent.) and 14 negative. Of 25 cases that had received 18 months' treatment, 10 were positive (40 per cent.) and 15 negative. Of 16 cases of inunction treatment all were positive. Of 15 cases treated with mercurial suppositories all were positive. Of 32 cases that had received under six months' pill treatment, 30 were positive with both doses of complement (1/10 and 1/5) (94 per cent.) and 2 were positive with the smaller dose, but showed some hemolysis with the large dose (6 per cent.). Of 11 cases that had received treatment for from six months to one year, 3 were positive with both amounts of complement, 6 were positive with the smaller amount, 2 showed hemolysis with both amounts of complement—i. e., 70 per cent. showed the effect of mercurial treatment.

Of 7 cases that had received 18 months' treatment, 1 was positive with both amounts of complement, 4 were positive with the smaller, but showed some hemolysis with the larger amount, and two showed hemolysis with both amounts of complement—i. e., 86 per cent. showed the effect of treatment. In other words, of the 17 cases which had received over 6 months' treatment only 3 showed hemolysis with the smaller amount of complement, whereas 14 showed hemolysis with the larger amount of complement—i. e., 83 per cent. showed influence of treatment. All those showing a positive result with the smaller amount of complement are active syphilities.

Of 11 cases of treatment by mercurial inunction, all under three months' treatment, 2 were positive with both amounts of complement, and 9 were positive with the smaller amount, but showed some hemolysis with the larger amount; i. e., 82 per cent. showed effect of treatment, therefore, and this after only three months. Of 17 cases that had received 12 injections of calomel 11 were positive with both amounts of complement, and 6 were positive with the smaller, but showed some hemolysis with the larger amount; 35 per cent. therefore showed effect of treatment. Of 14 cases treated with suppositories for under 6 months, only 3 (21 per cent.) showed any effect of treatment.

British Medical Journal, London

May 7

10 Practical Points in the Treatment of Clinical History of Early Syphilis. W. Coates.
11 *Surgical Treatment of Gastroptosis. F. Eve.
12 Principles of Treatment in Gastroptosis. R. Hutchison.
13 Cerebrospinal Rhinorrhea with Double Optic Atrophy. N. H. Pike.
14 Diagnostic Value of the Leucocytosis Occurring in Whooping Cough. T. A. Ashby.

15 Cellulitis of the Arm, Complicated with Pneumonia, Treated by Vaccine. W. O. Evans.
16 Acute Abdominal Infection in a Typhoid Carrier. T. H. Gardner.
17 The Knife and its Point. A. Z. C. Cressy.

11. **Surgical Treatment of Gastroptosis.**—Of 11 cases of gastropexy recently operated on by Eve, 2 patients were relieved of their symptoms while in the hospital. One patient was quite well 12 months after the operation, but must be excluded because calculi were removed from the common bile duct at the same time that gastropexy was performed, and Eve believes that the symptoms were probably largely due to cholelithiasis. Another patient became melancholic shortly after the operation, was sent to an asylum, and has since been lost sight of. Of the remaining 7 cases, 6 were completely cured; 3 of them reported themselves between 1 and 4 years after operation, and 3 between 3 and 9 months after operation. The remaining patient, operated on 13 years ago, was a neurasthenic, 32 years of age. She was quite well for some time after the operation, but returned to the hospital at the end of a year owing to occasional vomiting and return of pain; but her symptoms entirely subsided while she was in the hospital, and she was able to take ordinary food. Before the operation, the iodopin reaction was obtained in three hours, and 12 months after the operation in one hour and a half, indicating that the motility of the stomach had improved.

Seven patients were treated by gastrojejunostomy. In 3 of them there was dilatation of the stomach in addition to gastroptosis, and 2 of these had also hematemesis. In three other cases hematemesis was a conspicuous symptom. Three of the patients were definitely neurasthenics, but gastrojejunostomy was performed, because in one case there was distinct dilatation and in the two other, incessant vomiting with hematemesis. Of the 7 patients 4 were cured; of these 2 reported themselves 20 months and 7 years, respectively, after the operation, and 2 patients, 8 and 3 months, respectively. The three remaining patients were slightly improved. None of the patients with hematemesis had any recurrence. In fact, Eve has not yet seen recurrence of hematemesis after gastrojejunostomy. The stoma of the gastrojejunostomy probably acts as a safety valve and prevents the distention of the stomach by flatulence, which is one of the chief causes of the hemorrhage.

The two patients treated by Duret's method were improved at first, but ultimately relapsed more or less completely. In one of them gastropexy was subsequently performed with excellent results. Eve concludes that an operation on Beyea's plan, slightly modified, is indicated in the majority of cases of gastropexy which are not amenable to medical treatment. Gastrojejunostomy should be avoided, but may be necessary in certain cases of gastroptosis with dilatation and atony, and when hematemesis is present.

Medical Press and Circular, London

April 20

18 Some Painful Surgical Conditions of the Feet. J. J. Clarke.
19 Diagnosis of Duodenal Ulcer. G. Herschell.
20 Modern Methods of Infant Feeding. N. P. Marsh.
21 Allosan in the Treatment of Gonorrhea. D. N. Cooper.

April 27

22 Abscess in the Anal and Rectal Region. J. P. L. Mummery.
23 The Difference Between Real and Ineffectual Antiseptics. J. Lucas Championniere.
24 The Place of Cesarean Section in the Treatment of Placenta Prævia. H. Jellett.
25 Phlyctenular Affections of the Eye, with Particular Reference to Pathogeny. S. Stephenson.

Clinical Journal, London

April 13

26 Fundamental Truths in Surgery. C. B. Lockwood.
27 Panhysterectomy for Carcinoma of the Body of the Uterus, in Which an Infiltrated Portion of the Bladder was Removed. A. H. N. Lewers.
28 Cancer and the Treatment of the Disease. F. M. Sanwith.

April 20

29 Endosteal Sarcoma of the Tibia. H. J. Waring.
30 *Abdominal Surgery, Including Some Rare Forms of Intestinal Obstruction. H. Curtis.
31 Some Affections of the Eye-Muscles. A. H. Thompson.

April 27

32 Treatment of Colitis. H. P. Hawkins.
33 *Abdominal Surgery, Including Rare Forms of Intestinal Obstruction (continued). H. Curtis.
34 Myomectomy During Pregnancy. F. E. Taylor.

30. **Abdominal Surgery.**—The cases reported by Curtis are the following: 1. Penetrating wound of a hernial protrusion (self-inflicted); intestine and mesenteric vessels transfixed; intestine and mesentery sutured; death from hemorrhage, external and internal, and shock. 2. A large umbilical protrusion simulating a reducible hernia, found to be a trabeculated sac only, containing free ascitic fluid (cirrhosis of the liver); radical cure; recovery. 3. Tubercle of the extraperitoneal tissue of the anterior abdominal wall, associated with pleurisy and adhesive peritonitis (polyorrhomenitis, or polyserositis). 4. Volvulus of the small intestine, secondary to a hernia into the duodenal-jejunal fossa; one week's intestinal obstruction; reduction; cardiac failure; death. 5. Volvulus of the cecum and strangulation of the descending colon by a traction diverticulum, secondary to chronic peritonitis, causing chronic intestinal obstruction.

Practitioner, London

April

35 The Pupil Symptoms in Thoracic Aneurism. W. Osler.
36 Four Cases of Aneurism. R. B. Ness and M. J. Stewart.
37 *Acute Pyelonephritis Due to *Bacillus Coli*. H. D. Rolleston.
38 Gastric Ulcer versus Gastrostaxis. G. A. Sutherland.
39 Prophylaxis of Breast Cancer. W. S. Handley.
40 Treatment of Aural Sepsis with Antiseptic Vapor. W. Stuart-Low.
41 Gonorrhea in the Female: Its Diagnosis and Treatment. B. Whitehouse.
42 Preparation for and After Treatment of Gynecologic Celiotomies. A. J. Wallace.
43 Fissure of the Anus. F. C. Pybus.
44 Is the Acne Bacillus the Cause of Seborrheic Conditions of the Scalp? A. D. S. Cooke and H. Dold.
45 *Persistent Chronic Bronchitis in Children. J. Allan.

37. **Acute Pyelonephritis Due to Bacillus Coli.**—It is important, says Rolleston, to be on the lookout for infection of the urinary tract with *Bacillus coli*, because it may give rise to grave constitutional symptoms without any prominent local manifestations; this is particularly so in children, but it may also occur in adults. The *Bacillus coli* may gain a footing in the urinary tract in three ways: 1. Ascending infection, or the upward extension of the micro-organism from the urethra to the bladder, ureters, and pelvis of the kidney. This method of infection occurs in females, especially in early life, and has been explained by the shortness of the female urethra, and by its liability to be infected from the adjacent anus by fecal discharges, and by thread worms. 2. Descending infection, or infection due to the excretion of organisms from the blood into the tubules of the kidney. 3. Transparietal infection, or the passage of micro-organisms from the colon to the kidney, probably by means of the lymphatics. Vaccines made from *Bacillus coli* isolated from the patient's urine have been largely given, but opinion is not unanimous in their favor. Surgical treatment Rolleston regards as unnecessary, except (1) in the most severe cases in which there is suppuration spreading into the kidney substance; (2) in chronic cases in which a pyonephrosis has developed; (3) in secondary cases in which there is a calculus in the kidney.

45. **Chronic Bronchitis in Children.**—In the treatment of persistent chronic bronchitis the first point is that the causative factor must be determined and if possible remedied. Remove enlarged tonsils and adenoids. Mouth breathing in any case is a direct menace to the child's health, and in the tuberculous will tend to aggravate the constitutional condition. Nasal obstruction from whatever cause should be at once treated. As soon as possible after the operation the child should begin to carry out respiratory exercises, to reestablish breathing through the nose. The child's dietetic régime should be carefully investigated, and in necessary cases a suitable dietary should be drawn up. The fault may lie in habitual overfeeding or in wrong feeding. All cases will be benefited by a modified diet, and in cases secondary to chronic indigestion it should be strictly enforced. In general terms the reduction of the carbohydrate intake and the interdiction of sweet things are the important factors in modifying the diet.

Allan prescribes a diet similar to that advised by Dr. Robert Hutchinson in chronic dyspepsia in children. The following should be avoided: Starchy puddings, such as rice, sago, tapioca, arrowroot, and cornflour sweets, sweet cakes, sweet fruits, jam, honey, marmalade, potatoes, turnips, carrots, etc.

The diet should consist chiefly of stale bread, dry toast with butter or drippings, eggs in any form, beef, mutton, fish, chicken, bacon, tongue, green vegetables in moderation, custard, plain puddings, stewed prunes, figs, etc. The child should be trained to eat only at meal times and should not be given anything between meals. Tea, coffee and stimulants should be prohibited. In the absence of definite gastric symptoms, Allan relaxes the restrictions somewhat, allowing more carbohydrate food, and a little weak tea, but forbidding sweet things as far as possible. General hygienic measures are of primary importance. These children should be in the open air as much as possible. The rooms which they inhabit should have good ventilation, and the window in the sleeping apartment should be kept open night and day. The clothing should be of such material as to afford sufficient warmth without being too heavy. Outdoor sports, in the absence of any cardiac disability, are to be recommended. Cold sponging is invaluable. A change of residence is often beneficial. With regard to medicinal treatment, general tonics should be prescribed. The cough under certain circumstances may call for treatment, but it is often found that under this general tonic treatment, improvement as regards this symptom takes place.

Journal of Laryngology, Rhinology and Otology, London

April

46 Report (1908) of the Ear and Throat Department of the Eye, Ear and Throat Infirmary, Edinburgh. W. G. Porter and J. M. Darling.

47 Acquired Deaf-Mutism Due to Congenital Syphilis. M. Yearsley.

Annales de Gynécologie et d'Obstétrique, Paris

April, XXXVII, No. 4, pp. 193-256

48 Operative Treatment of Postoperative Abdominal Hernia. (Nouveau procédé d'opération de la hernie abdominale post-opératoire.) V. Pitha.

49 Supravaginal Hysterectomy near Term without Emptying the Uterus. A. Couvelaire.

50 Clinical Study of 183 Cases of Hemorrhage from Placenta Prævia. (Doit-on recourir à l'opération césarienne pour traiter les hemorragies dues à l'insertion vicieuse du placenta?) J. Mouchotte.

Annales de l'Institut Pasteur, Paris

March, XXIV, No. 3, pp. 161-240

51 The Microbe of Peripneumonia of Cattle. (Morphologie du microbe de la péripneumonie des bovidés.) J. Bordet. (Microbe de la péripneumonie.) Borrel, D. Beaumetz, Jeantet and Jouan.

52 Diastase Splitting Cellulose. (Recherches sur la Cellase.) G. Bertrand and M. Holderer.

53 Action of Certain Microbes on Tuberculin. (Etude de la nature de la tuberculine). Vandremer.

54 Analyzing Action by Certain Acids on Alcoholic Fermentation. M. Rosenblatt and M. Rozenband.

55 Presence of a Flagellated Leptomonas in the Juice of Three Species of Euphorbia (Milkweed): "Flagellosis" in Plants. A. Lafont.

56 Treatment of Trypanosomiasis in Horses. (Traitement des trypanosomiases chez les chevaux par l'orpiment seul ou associé à l'émétique de potasse.) A. Thiroux and L. Teppaz.

57 Treatment of Surra in Camels. (Traitement du surra chez les dromadaires par l'orpiment seul ou associé à l'émétique ou à l'atoxyl.) A. Thiroux and L. Teppaz.

Archives des Maladies du Cœur, Etc., Paris

April, III, No. 4, pp. 209-272

58 Paroxysmal Adams-Stokes Syndrome with Sclerosis of Bundle of His. (Syndrome de Stokes-Adams à crises paroxystiques avec rythme bicouplé dans un cas de double lésion aortique compliquée de double lésion mitrale et de rétrécissement tricuspidien. Sclérose du faisceau de His.) E. Barlé and M. Cléret.

59 Sclerosis and Atheroma of Pulmonary Artery: Mechanical Factors. Giroux.

60 Comparative Research on Hemolytic Jaundice in New-Born Infants and Induced Hemolysis. (Etude anatomo-pathologique comparée de l'ictère hémolytique du nouveau-né et de l'hémolyse provoquée. Nature hémolytique de l'ictère post-chloroformique.) E. Leuret.

Bulletin de l'Académie de Médecine, Paris

April 26, LXXIV, No. 16, 357-368

61 *Compulsory Isolation in Leprosy, Smallpox, etc. (A propos d'un cas de lèpre contagieuse. Réflexions sur l'isolement obligatoire de certains malades infectieux.) J. Courmont, M. Lannois and Dufourt.

61. **Contagious Leprosy.**—Courmont has a patient with leprosy whose nasal secretions swarm with lepra bacilli. The man ascribes the infection to cleaning a building in Colombia, South America, which had been used at one time for lepers but was then empty. A few months later symptoms of leprosy developed. He has been serving as a porter during the last two years in France, and Courmont discusses the problem of social hygiene presented by such a case, as there is no legal means of preventing his spreading the infection broadcast. The nose was the principal seat of the ulcerations. The throat also was involved. As the man is only 39, lives a wandering life and emits every day several grams of secretions swarming with bacilli, and is liable to acute exacerbations at certain intervals, he is certainly a peril to the public. Courmont believes the passage of some wandering leper of this kind may have been the origin of certain foci of leprosy in France. He urges modification of the law to enforce compulsory isolation of contagious individuals until their bacteriologic recovery. In the Scandinavian countries, he says, both rich and poor seek the hospitals, and this is the true solution of the question. He states that it is, from the social point of view, more important to isolate the contagious than the insane. Prophylaxis of scarlet fever, diphtheria, leprosy and smallpox requires compulsory isolation from the beginning of the disease to the end of the contagious period.

Obstétrique, Paris

April, III, N. S., No. 4, pp. 289-384

62 Unusually Large Fetuses. (Considérations sur les gros fœtus.) P. Delmas and J. Delmas.

63 Pubiotomy in Five Cases. (A propos de cinq cas d'hébotomie.) E. Hollländer.

64 Muscle and Ligament Apparatus of the Cervix. L. Devraigne and P. Descomps. Commenced in No. 3.

65 The Need and Utilization of Energy in Infants. (Le besoin d'énergie chez l'enfant.) P. Lassablière.

Presse Médicale, Paris

April 27, XVIII, No. 34, pp. 313-320

66 Amputations in Light of Modern Progress. (Les amputations.) H. Hartmann.

April 30, No. 35, pp. 321-328

67 Staphylococcus Infection of the Bladder Following Carbuncle on the Neck. (Infection vésicale staphylococcique par migration de dehors en dedans.) T. Tuffier and A. Mauté.

68 *Behavior of Leucocytes with Cancer Extract: Leucodiagnosis. (Nouveau procédé de diagnostic du cancer.) H. Bénard and C. Gagneux.

69 Epigastric Hernia. C. Dujarier and J. Berger.

May 4, No. 36, pp. 329-336

70 *Toxicity of Echinococcus Cysts. Direct Toxicity and Anaphylaxis. L. Boidin and G. Laroche.

68. **Leucodiagnosis of Cancer.**—Achard, Bénard and Gagneux have demonstrated that the presence of certain cellular elements in the organism confers on the leucocytes the faculty of reacting to the products of these cells. This reaction is influenced by the normal or pathologic modifications occurring in the functioning of these cells. Their tests *in vitro* seem to show that this leucocyte reaction is specific to the pathogenic or normal substance circulating in the organism, thus revealing the physiologic or pathologic state connected with the intoxication, infection or functional disturbances in the organ in question. They have applied this method to various infections and diseases and in this article report the findings in 49 cases of cancer, all positive, and in 24 non-malignant cases, in which the reaction was always negative. The test is made with extract of macerated cancer tissue. Mixed with this extract the leucocytes from healthy persons seem to lose their phagocytic property, while leucocytes from persons with cancer are not affected by the extract. The phagocytic properties are tested with one drop of a yeast emulsion in test tubes containing the extract and a drop of blood from the patient.

70. **Toxicity of Echinococcus Disease.**—Boidin and Laroche call attention to the fact that the fluid from an echinococcus cyst is scarcely at all toxic for animals, and yet the absorption of a few drops during a clinical operation is liable to cause sudden and severe symptoms indicating serious intoxication. Chauffard explains this as the result of anaphylaxis, and experimental research is here reported which justifies this view. There is evidently a slow, chronic, toxic action going on all the time, as is revealed by biologic tests, fixation of complement and eosinophilia. Under the influence of this chronic intoxication the patient becomes sensitized, as it were, and the introduction of a new dose of the toxin, even a small one, is liable to induce shock due to anaphylaxis.

Revue de Gynécologie, Paris

April, XIV, No. 4, pp. 305-416

71 *Microcystic Ovary. (L'ovaire à petits cystes.) E. Forgue and G. Massabuau. Commenced in No. 2.
72 *Ileocecal and Appendicular Tuberculosis. P. Alglave. Commenced in No. 2.

71, 72. See abstracts 68 and 69, page 1484, April 30, 1910.

Semaine Médicale, Paris

May 4, XXX, No. 18, pp. 205-216

73 Scleroderma with Simple Goiter. M. Klippel.

Archiv für Gynækologie, Berlin

XC, No. 3, pp. 441-658. Last Indexed April 23, p. 1414

74 Fat Droplets in the Muscle Cells in Chronic Metritis. (Auftreten von Fetttröpfchen in den Muskelzellen des Myometriums bei der sogenannten Metritis chronica.) F. Unterberger.
75 Respiratory Metabolism and Respiration During Pregnancy. (Respiratorischer Stoffwechsel und Athmung während der Gravidität.) L. Zuntz.
76 Comparative Research on Intraperitoneal and Extraperitoneal Infection. M. Schwab.
77 Experiences with 530 Cases of Contracted Pelvis at Zurich Maternity. (Geburtsverlauf und Therapie beim engen Becken, 1891-1909.) O. Metzler.
78 Etiologic Importance of the Leucocytes for Pregnancy Kidney and Eclampsia. (Aetiologische Bedeutung der weissen Blutkörperchen für die Schwangerschaftsniere und die Eklampsie.) A. Dienst.
79 Thirty-four Cases of Eclampsia at Urban Maternity. W. Schneider.
80 Colporrhaphy by Doubling the Vaginal Wall. (Kolporrhaphie durch Scheidenwandverdoppelung.) A. Rieck.
81 Relations Between Ovary and Hypophysis Cerebri. (Beziehungen zwischen Keimdrüsen und Hypophysis.) E. Mayer.
82 *Operative Treatment of Placenta Prævia. M. Henkel.

82. **Operative Treatment of Placenta Prævia.**—Henkel compares the experiences at various clinics with different technics. His conclusion is to the effect that abdominal Cesarean section is indicated for placenta prævia centralis whether the fetus at term is living or not. Earlier in the pregnancy the vaginal route is preferable, clamping the uterine vessels on both sides. With placenta prævia lateralis or marginalis either the inflatable bag or version can be applied. In a recent series of 26 cases of placenta prævia in which treatment was applied on these principles, only 2 of the patients died, while 6 patients and half of the children died in a preceding series of 30 cases in which the metreurynter had been exclusively used.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVI, No. 2, pp. 71-182. Last indexed May 14, p. 1656

83 Tuberculin in Treatment of Tuberculosis. (Einige Bemerkungen über die specifische Therapie der Tuberkulose.) K. Dluski.
84 Béraneck's Tuberculin in Treatment of Tuberculosis. (Anwendung des Beraneckschen Tuberkulins TB in der Tuberkulose.) K. Dluski.
85 Study of Symmetrically Conducted Râles. (Zur Kenntnis der symmetrisch fortgeleiteten Rasselgeräusche.) L. v. Muralt.
86 Spengler's I. K. in Treatment of Tuberculosis. K. Weihrauch.
87 Carbol-Fuchsin Iodin Stain for Structure of True Acid-Fast Bacteria. (Neue einfache Strukturfärbung für die echten Säurefesten, speziell für die Tuberkuloseerreger.) H. Kronberger.
88 Pathologic Anatomy of Artificially Induced Pneumothorax, Warnecke.

Beiträge zur klinischen Chirurgie, Tübingen

April, LXVI, No. 3, pp. 463-801

89 *Fatality Following Momburg's Belt Constriction. (Ein Todesfall im Anschluss an Momburg'sche Blutleere.) J. Amberger.
90 Cystic Tumors in Tendons. (Ueber Sehnenganglien.) W. Bergemann.
91 Traumatic Hernias. F. Schlender.
92 Hernia into the Lesser Sac of the Omentum. (Die Hernien der Bursa omentalis mit abnormen Eintrittspforten. Die Transhæsio intestini.) E. D. Schumacher.
93 *Injuries of the Semilunar Fibrocartilage of the Knee. (Verletzungen der Kniegelenkszwischenknorpel und ihrer Verbindungen.) F. Kroiss.

89. **Fatality After Momburg Belt Constriction.**—The patient in the case reported was an aged and infirm man who had been crushed between a wagon and a stone wall, the contusion being in the right inguinal region. Two hours after the accident signs of laceration of the femoral artery compelled operation and the rubber tubing was wound around the waist to prevent further hemorrhage, according to the Momburg technic. As the tubing was unwound afterward the patient collapsed. Autopsy disclosed stasis hemorrhages in the pleura and edema in the lungs and a little bloody fluid in the pericardium. These evidences of severe congestion in the upper part of the body Amberger ascribes to the action of the constricting tubing in this particularly decrepit patient.

93. **Injuries of the Meniscus and Their Treatment.**—Kroiss reports from the Innsbruck clinic in charge of Schloffer 32 cases of this kind and reviews 214 from the literature, giving a summary of each, with the special treatment and the ultimate outcome so far as known. Removal of the meniscus gave good results in 82 per cent. of the cases, while a perfect result was obtained in 92 per cent. of the cases in which the meniscus was merely sutured.

Berliner klinische Wochenschrift

April 18, XLVII, No. 16, pp. 709-756

94 Prophylaxis and Treatment of Caisson-Disease. (Presslufterkrankungen.) J. Plesch.
95 Radium Emanations and Gout. H. Bechhold and I. Ziegler.
96 Aortic Insufficiency and the Wassermann Reaction. R. Kretting.
97 *Prelatent Stage of Pulmonary Tuberculosis: Tuberculosoid. (Ueber Lungentuberkulosoid.) E. Neisser and H. Bräuning.
98 *Loading Tests of the Stomach. (Belastungsproben des Magens.) W. Bloch.
99 Functions of the Hypophysis and Action of Experimental Injection of Its Extract. G. Franchini. Commenced in No. 15.
100 Relations Between Appendicitis and Pyelitis. E. Rosenkrans.
101 Suction Apparatus for Keeping Field of Operation Clear of Blood During Operations on the Skull. (Versuche über Blutstillung bei Gehirnoperationen.) E. Unger and M. Bettmann.
102 Advantages of Vein or Artery Wall for Plastic Operation on the Dura. (Duraplastik.) E. Unger and M. Bettmann.
103 Application of Electric Vibrations—Forest's Needle—for Operative Purposes. (Anwendung der ungedämpften elektrischen Schwingungen zu operativen Zwecken.) M. Cohn.
105 "Enlarged Suicide:" (Parent Killing Self and Children.) (Der Familienmord und die freie Willensbestimmung.) H. Marx.

97. **Pulmonary Tuberculosoid.**—Neisser and Bräuning have coined this term to express a common condition in which the patients present subjective signs of pulmonary tuberculosis and some susceptibility to tuberculin, unstable temperature but no fever, and tenderness in the region of the bronchial glands, but all these signs gradually subside and the patients remain constantly well. In the 1,900 persons who have passed through the tuberculosis observation station at Breslau in the last ten years, 300 presented this tuberculosoid condition, and examination from 4 to 10 years later has shown that the condition is the result of tuberculous infection in a person who is not predisposed to the disease and is thus able to resist general infection. The process remains small and circumscribed, and either heals or passes into a latent phase. If he dies from some intercurrent disease, the findings are those which Naegeli has described. This prelatent stage of pulmonary tuberculosis may itself become chronic, the patients being then classed as anemic or pseudoanemic by their ailing but never really sick state, but their susceptibility to tuberculin and the tenderness of the bronchial glands reveal that they are chronic tuberculosoids. The primary focus is not able to induce actual pulmonary tuberculosis but still keeps its foothold. The importance of this conception is that in these cases the patients did not take any treatment or merely a very insignificant one. If they had been given a course of treatment the recovery or passage into the latent phase would have been ascribed to the treatment. In the spontaneously recovering cases the observer might have been tempted to doubt his diagnosis of tuberculosis. Among 90 tuberculosoids reexamined after several years, 57 were cured or in a latent phase, and in 28 the condition had become chronic although better than at the first examination. Only 2 out of the total 300 tuberculosoids have died, and both succumbed to an intercurrent affection. In conclusion Neisser and Bräuning call attention to the peculiar liability of certain occupations to develop this tuberculosoid condition; it was encountered in 38 per cent. of 269 cabinet makers and locksmiths; in 32 per cent. of 68 painters and printers; in 70 per cent. of 47 girls employed in stores, but only in 3.7 per cent. of 325 housemaids and in 2 per cent. of 179 sailors, gardeners or roofers, or men otherwise employed out of doors.

98. **Loading Test of the Stomach.**—Bloch has the patient take a suspension of bismuth and he is then radiographed. He then eats an appetizing meal of beefsteak and potatoes, eating as much and as fast as he can, and is then radiographed anew at intervals. The normal stomach under these conditions

enlarges evenly, spreading wider, but the pathologic stomach is dragged down by the weight of the ingesta and the latter accumulate at the bottom, which is the only part that spreads out wide.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

April 4, XIII, No. 5, pp. 161-208

106 *Leukemic and Pseudoleukemic Disease of the Upper Air Passages. (Die leukämische und pseudoleukämische Erkrankung der oberen Luftwege.) R. Imhofer. Commenced in No. 3.
107 *Traumatic Pneumonia. L. Müller. Commenced in No. 3.

106. **Disturbances in the Upper Air Passages with Leukemia and Pseudoleukemia.**—Imhofer discusses the manifestations in the throat and nose of a tendency to leukemia and pseudoleukemia. With leukemia the mouth and throat may present a diffuse catarrhal affection, or the lymphatic tissue, follicles and tonsils may alone be involved, or the lesions may be of an ulcerative or gangrenous nature. In differentiation great stress should be laid on a striking and rapidly increasing enlargement of the tonsils—they may become four or five times the normal size; small suggillations are also characteristic. When such are discovered the blood should always be examined under the microscope. Hanszel has reported a case of acute leukemia in which a deep ulcer developed in the tonsil, involving the uvula, and staphylococci were cultivated from the lesion. The connection with an angina is particularly evident in a case reported by Hanszel in which a young man had a severe sore throat, followed by fatigue and emaciation after a fall from a horse. Four weeks later the angina recurred with ulceration in the tonsil, enlargement of the glands throughout and death in four weeks from acute leukemia. Kubler found a yellowish deposit on gums and tonsils in a previously healthy soldier, and their leukemic nature is evident, as a tendency to hemorrhages at various points and multiple glandular tumors were also observed. In 4 cases on record operations for removal of adenoid vegetations or enlarged tonsils in leukemic children proved fatal. In one case the child died suddenly several hours after an extensive post-operative hemorrhage. In the other cases 2, 3 or 4 weeks elapsed after the operation before the child succumbed to increasing weakness and aggravation of the signs of leukemia, suggesting that the operation had transformed a chronic leukemic process into an acute form. The danger of hemorrhage is thus not the main peril in operations on the upper air passages in leukemia; the possibility of rousing a mild chronic process to severe acute manifestations must be considered. In one of the above cases this transformation did not occur until after a second operation for recurrence of the leukemic enlarged tonsils and adenoid growths. Consultation with the little patient's family physician is extremely important, if practicable, before attempting any operation on adenoids or enlarged tonsils. On the slightest suspicion of leukemia the most careful examination should be made, and only when leukemia can be certainly excluded should the operation be performed except for vital indications. Especially suspicious is the simultaneous enlargement of all the tonsils and of the regional glands, although such may be encountered with tuberculosis. Rapid recurrence after operation is also suspicious of leukemia; also when the swollen parts are redder than with tuberculous lesions and the tumor seems harder; edema is not observed as in tuberculous lesions in the throat. The blood findings are the main reliance for differentiation. Lymphosarcoma is distinguished by its progressive encroachments in the vicinity. Treatment of leukemic affections of the nose and throat can be only symptomatic and that for leukemia in general and this has little to show to its credit. Tracheotomy is indicated as a last resort but did not avert the fatality in the cases on record. In one there was necrosis of the fascia and fatal bronchopneumonia; pressure necrosis and gangrenous destruction are liable also after intubation. The same conclusions apply to pseudoleukemia and to lymphosarcoma except that the course of the latter is more prolonged as a rule, and patients with lymphosarcoma stand operations much better than those with leukemia or Hodgkin's disease. Beale, Storck and others have reported long survivals after removal of the lymphosarcoma and Abercrombie performed three operations for recurrence, the patient finally succumbing to a complicating erysipelas. Lymphoid and myeloid chloromas seem to stand midway between leukemia and lymphosarcoma, but they do not involve adjoining tissues and there is no enlargement of the spleen.

107. **Traumatic Pneumonia.**—Müller reviews 127 articles that have been published on the subject of pneumonia following external violence or inhalation of dust or gas or aspiration of a foreign body. He summarizes the various cases reported, emphasizing the special features of each. The list includes 21 articles published since 1900, among them J. J. King's article in THE JOURNAL, March 21, 1908, page 939. Litten reported 4.4 per cent. of traumatic cases in 320 cases of pneumonia in his experience during 6 years. The acute pneumonia may develop into a chronic phase, but Müller could find very few records of traumatic pneumonia commencing in an insidious chronic form. Hadlich's experimental research has shown that a chronic florid inflammatory process may persist in the lung unsuspected long after the healing of an experimental stab wound not far away. In the few clinical cases of chronic traumatic pneumonia on record a tuberculous element seems probable in some. Partsch states that the numerous small foci of extravasated blood from a contusion of the lung may induce a syndrome suggesting insidious phthisis but that complete recovery is the rule. Stern is convinced that chronic non-tuberculous inflammation of the lung occurs more frequently than is generally recognized. In a case in which pneumonia developed two days after a boy had been hit on the back by his teacher, the court refused to admit that the blows on the back, the head bent forward, could have been responsible for the rapid development of acute pneumonia. In Weigel's case, also, no forensic connection was admitted between a slight injury of the head in 1893 and a fatal pneumonia complicated with meningitis in 1906. In another forensic case a young man developed fatal pneumonia two days after a jar from another swimmer in a swimming tank. He became unconscious from the impact but was rescued in about four minutes. The verdict of traumatic pneumonia relieved the swimming-master of responsibility; the autopsy findings showed that no water had been aspirated.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 20, XL, No. 12, pp. 353-400

108 *Treatment of Contracture in Hemophilics. (Zur Behandlung des kontrakten Blutergelenkes.) C. Hübscher.
109 *Traumatic Tabes. P. Ladame.
110 *Predisposition to Disease with Atmospheric and Similar Conditions. (Disposition und Gezeitenamplitude.) H. Brunner.

May 1, No. 13, pp. 401-432

111 Appendicitis and Gynecologic Disease. (Appendicitis und Frauenkrankheiten.) A. Widmer.
112 A Century of Vital Statistics in a Swiss Commune. (Hundert Jahre Geburts- und Totenstatistik der Kirchgemeinde Ermatingen.) O. Nægeli.

108. **Treatment of Contractures in Hemophilics.—Hübscher** describes the technic with which he was able to correct the contractures in the knees of a boy of 15, a typical bleeder, from a family of bleeders. The process in the knees was the typical hemophilic joint process, and there was a fistula in the arm from a hematoma in the biceps, which bled a little at times. Before attempting treatment, Hübscher injected 10 c.c. of normal horse serum into the region of the pectoralis, and within two days the fistula ceased to bleed. The contracture was corrected with a plaster cast from hip to toes, cut out at the knee, with elastic traction on the leg by means of rubber tubing fastened to a projecting iron frame. The device is illustrated. The boy was not kept in bed and by the end of the month he was able to use his legs. The last trace of contracture was then reduced under ether after another injection of horse serum; there was no bleeding at any time. The family physician was instructed to keep up the prophylactic injections of serum every six weeks or two months afterward for a time. The influence of the serum was striking in this case; under its protection measures were successfully undertaken even the attempt at which previously had brought on menacing hemorrhages. He used the serum less than two hours after it had been taken from the horse. By this means he believes that it will be possible to avoid fatalities such as those König has reported in which boys of 13 and 18 succumbed to hemorrhage after an operation on the knee for supposed tuberculosis. A cousin of Hübscher's patient met

with this same fate. Tilmann also lost a patient from this cause after an operation on a hemophilic joint which had been mistaken for a lipoma. Fröhlich mentions the case of a soldier who was operated on for a supposed abscess in the hip joint, the fifth process of the kind, each time the fever and hard edema suggesting an acute osteomyelitic process. The patient bled to death thirty-six hours after the operation. When a process of this kind, generally bilateral and recurring at intervals, develops in a youth of a pale aspect, and especially if Roentgen-ray examination shows the unmistakable contracted bleeder joint, no operation should be attempted if avoidable; but if required, the patient should be kept under the prophylactic influence of injections of normal horse or human serum. In dubious cases, he remarks, it is much safer to make the injections sometimes when they are not needed rather than to omit them in the true bleeder cases.

109. **Traumatic Tabes.**—Ladame's patient was a previously healthy man of 52 who developed symptoms of incomplete tabes a few months after a severe railroad accident followed by a traumatic neurosis, the symptoms of which persisted for years with varying intensity. Although everything in this case seemed to speak for traumatic tabes and there was nothing to suggest syphilis in the family history, yet Ladame is inclined to believe that an ignored syphilis was at the root of the nervous affection, as the patient had had a brief mild gonorrhea in youth. No tests were made for the Wassermann reaction; the Argyll-Robertson sign was pronounced.

110. **Tides and Predisposition to Disease.**—Brunner has been keeping records for thirty years in regard to the incidence of disease in connection with the reduction in the atmospheric pressure which accompanies the periods during which the attraction of the moon is supplemented by that of the sun increasing the effect of gravitation. This tide in atmospheric pressure is manifested by the changes in the weather and possibly also by changes in the circulation of the sap in plants, the vitality of pathogenic germs and the blood pressure in man. The maximal effect is therefore experienced when the moon is nearest the earth, and especially at the time of the great spring tides. He gives a table of the date of onset of the first symptoms of pneumonia in all cases of pneumonia in his charge during the last 2 years, a total of 25 cases. In 6 cases the onset was within 2 or 3 days of each other in different villages, and in 21 it coincided with the new or full moon, only 4 occurring at the first or last quarter of the moon. He thinks that the influence of the maximal effect of the attraction of the moon is evident also in the commencement of labor, the incidence of epileptic seizures, crises in disease and death.

Deutsche medizinische Wochenschrift, Berlin

April 28, XXXVI, No. 17, pp. 785-824

113 *Banti's Disease. (Zur Bantischen Krankheit.) Momm.
114 *Non-Parasitic Chyluria. J. Hnatek.
115 *Pus Flooding Gastrointestinal Tract from Emphysema in the Nasal Sinuses. (Eiterüberschwemmung des Magendarmkanals aus Nasennebenhöhlenempyemen, nebst einer Bemerkung über die Bedeutung des Flagellatenbefundes im Magen.) E. Zabel.
116 Formula for Estimating Calories in Infant Feeding. (Die Nahrungseinheit als einfache Grundlage der kalorische Diätberechnung für Säuglinge.) G. Heimann.

113. **Banti's Disease.**—Momm reports a typical case, the history showing some connection with an accident, the patient having been run over by a bicycle. Apparently complete recovery followed removal of the spleen four years after the first symptoms, and the patient feels entirely well at present, six months after the operation. The case shows that ascites may occur quite early in the disease; it is probably the result of abnormal composition of the blood and obstruction of the lymphatics in consequence of swelling of the mesenteric and retroperitoneal glands.

114. **Non-parasitic Chyluria.**—In Hnatek's case, a previously healthy woman of 33 suddenly noticed milky discoloration of the urine and the passage of villus-like clots, with pains similar to stone colic. The night urine contains 7.73 c.c. albumin to the liter; the day urine is normal unless the patient reclines, when it becomes chylous. Catheterization of the ureters shows that the left kidney eliminates four times as much fat as the right, suggesting new problems, as the amount of urine is about the same from each.

115. **Gastrointestinal Disturbances from Swallowing Pus from Sinusitis.**—Zabel has encountered a number of cases of subjective gastric disturbances for which a sinusitis was responsible. The disagreeable sensations were most marked in the morning. Bad taste in the mouth, gases in the stomach, lack of appetite and loss in weight, and altered stomach content is suggestive of chronic catarrh. His experience warns that in all cases of gastric disturbance it is wise to seek for the presence of pus in the nasal apparatus or throat, in the teeth or from a cavity in the lungs. He found flagellates numerous in the stomach content in 2 cases described in detail; the patients were boys of 9 and 15 and the microscope showed numerous scraps of mucosa in the stomach content swarming with the parasites, and with traces of punctate hemorrhages. The disturbances in the intestines from this cause may be so serious as to suggest appendectomy.

Deutsche Zeitschrift für Chirurgie, Leipsic

March, CIV, Nos. 3-4, pp. 209-423

117 *Functional Results of Resection of the Elbow with Interposition of a Muscle-Flap According to Helferich. H. Reiner.
118 Case of Ligation of the Innominate Artery for Arteriovenous Aneurism of Common Carotid. P. Herzen.
119 Firearm Wound of Heart without Perforation of the Pericardium. (Fall von Perforation des Herzens durch Schussverletzung ohne Durchschlagung des Herzbeutels, zugleich ein Beitrag zur Kasuistik der Verletzungen des rechten Herzohres.) H. Luxembourg.
120 Chemical, Histochemical and Cytologic Research on Tumors of Type of Suprarenal Cortex. (Tumoren vom Typus der Nebennierenrinde.) C. Ciaccio.
121 *Influence of Balsam of Peru on Bacteria and its Therapeutic Value in Treatment of Wounds. J. Sickmann.
122 Etiology of Polymyositis. J. Mayesima.
123 Cancroid in Exstrophic Bladder. A. Wagner.
124 Production and Technic for Use of Compressed Air in Hospitals. (Der Luftkompressor im Krankenhaus.) F. Kuhn.
125 Production of Sterile Catgut. III. (Katgut, steril vom Schlachttier vor dem Drehen mit Jod oder Silber behandelt.) F. Kuhn.
126 *Removal of Bladder for Carcinoma. (Zur totalen Blasenexstirpation bei Carcinom.) N. N. Petrow.
127 Technic for After-Treatment of Suture of the Patella. (Patellarnaht.) E. W. Baum.
128 Injury of Recurrent Nerve During Operations for Goiter. (Rekurrensläsionen bei Strumaoperationen.) F. L. Dumont.
129 *Organotherapy of Acute Postoperative Tetany. O. L. Schneider.
130 Multiple Echinococcus of the Abdominal Cavity. F. Weber.

117. **Resection of Elbow with Interposition of Muscle Flap.**—Reiner reviews the outcome in 23 cases of injury or disease of the elbow requiring resection and treated by interposition of a flap of muscle tissue. The arm was left fairly movable in 82.6 per cent. of the cases. The results were invariably good in the tuberculous cases, the local process healing, and in all the results far surpassed those attainable with other technics, he is convinced.

121. **Balsam of Peru in Treatment of Wounds.**—Sickmann's experience with balsam of Peru and his experimental studies have confirmed, he says, the great advantages of this method of treating recent accidental wounds. The wound is covered with a compress while the vicinity is scrubbed, shaved or washed with alcohol and benzine and painted with tincture of iodin. Then the compress is removed, the minor bleeding arrested, the superficial wound secretions mopped up and, without any further preparation or sterilization, the balsam is poured into the wound until it overflows, after which a dry sterile dressing is applied. The balsam is so heavy that it sinks down into the remotest crevices. The dressing is not changed for a week unless fever or other signs of infection develop. This is by no means an ideal method of treatment, he remarks, but the results are remarkably good in comparison with the simplicity of the method. Especially for the first dressing of the wound, which generally decides the fate of the lesion and possibly of the patient, this technic renders inestimable service. It is also extremely useful in old torpid processes to stimulate them to more active repair. He often uses the balsam, instead of tamponing, to fill up and thus close the holes left by drains in operations on the joints. No inconveniences were ever observed from the use of the balsam; it seems to have a slow but unmistakable antiseptic action on the germs commonly encountered in recent wounds, while its physical and chemical properties oppose putrefaction. It has, further, a positive chemotactic action which enhances the local resistance.

126. **Removal of Bladder for Carcinoma.**—Petrow reports a case in which the patient was in good condition 9 months after total removal of the bladder for malignant disease. In a second case the disease was far advanced and the heart dilated, and the patient succumbed during the preliminary operation. He reviews 64 cases he has found in the literature, the immediate mortality having been 50 per cent., 11 others succumbing in from 2 to 5 years, while 13 others are still living from a month to 16 years since the operation. The ureters were implanted in the intestine in 11 cases, including 6 in which the patients are still living after from 4 to 18 months, while the survival was from 3 months to over 5 years in the 5 other cases. In the 3 cases in which the ureters were implanted in the vagina, the patients are still living, after 3 months, 8 months and 16 years. In 9 cases the ureters were implanted in the skin in the lumbar region front or back, and 5 of the patients died in from 2 to 13 months; the others are still living after 4 months in 1 case and 2 years in the 3 others. The communication issues from Oppel's surgical service at St. Petersburg. Petrow advocates operating on the ureters first, not removing the bladder until two weeks after they have been implanted at the desired point. He recommends the intestine for this. The laparotomy for the purpose allows oversight of conditions before the final operation. The outcome depends on the state of the kidneys, as a rule; if they are diseased, as in his second case, there is not much hope of a successful termination.

129. **Effectual Parathyroid Treatment of Parathyreopriva Tetany.**—The thyroid gland was the seat of a sarcoma in the case reported by Schneider. The cancer involved also the parathyroids, and removal of the growth was followed by severe tetany. Fresh parathyroid substance from the horse, dried and powdered, was given, and he says that a specific favorable effect on the tetany was unmistakable. The patient was a woman of 40; she succumbed before the year was out to the progress of her malignant disease.

Fortschritte der Medizin, Leipsic

April 7, XXVIII, No. 14, pp. 417-448

131 Present Status of Differential Diagnosis of Syphilitic and Metasyphilitic Brain Disease. (Heutiger Stand der Diagnostik und Differentialdiagnostik der luetischen und metaluetischen Gehirnerkrankungen.) A. Fauser. Concluded in No. 16.

132 Treatment of Chancroid and its Complications. (Behandlung des Ulcus molle.) G. Hahn.

April 14, No. 15, pp. 449-480

133 Opsonin and Vaccine Therapy. H. Reiter.

April 21, No. 16, pp. 481-512

134 Psychic Hermaphroditism in Daily Life and Especially as a Basis of Neuroses. (Zur Dynamik und Therapie der Neurosen.) A. Adler.

Medizinische Klinik, Berlin

May 1, VI, No. 18, pp. 691-730

135 *Artificial Dilatation of Cervix Uteri. (Ueber Methoden zur künstlichen Eröffnung der Gebärmutter unter der Geburt und zum Zwecke der Geburtseinleitung.) W. Hannes.

136 Nature of Jaundice and its Influence on the Metabolism. (Wesen des Ikterus und sein Einfluss auf den Stoffwechsel.) O. Gross.

137 Lordotic Albuminuria. R. Fischl.

138 Corset for Correction of Lordotic Albuminuria. T. Wohrizek.

139 *Thyroid Treatment in Epilepsy. (Schilddrüse und Epilepsie.) A. Siegmund.

140 *Resistances in the Circulatory System and their Importance in General Practice. (Ueber Widerstände im Zirkulationssystem und ihre Rolle in der Praxis.) L. Sperling.

141 Symptomatology of Senile Polyneuritis. S. Auerbach.

142 Roentgen-Ray Examination of the Heart in Carbonated Bath. (Röntgenuntersuchungen des Herzens im Kohlensäurebad.) A. Selig.

143 Altitude and Forest Climate. (Ueber Höhenklima und Waldklima.) J. Schubert.

135. **Artificial Dilatation of the Uterine Cervix.**—Hannes protests against instrumental dilatation, as it merely stretches the tissues without inducing physiologic dilatation; the latter can be realized with the elastic inflatable bag. This simulates the natural process of stimulation of the cervical musculature to rhythmic contraction by the gentle, gradual pressure of the ovum from above on the cervix. If it is impossible to wait for this natural process, he advises slitting the cervix—vaginal Cesarean section. The incision is under control, which is never the case with the tears resulting from instrumental dilatation.

139. **Epilepsy and the Thyroid.**—In the case reported by Siegmund, certain evidences of thyroid insufficiency accompanying the epilepsy suggested possible benefit from thyroid treatment which was systematically applied. The patient was a girl, 9 years old, and the constant improvement has confirmed the assumption that defective thyroid functioning was an important factor in the epilepsy. The child has been under observation for two years.

140. **Obstacles to Normal Circulation and their Importance in Pathogenesis.**—Sperling comments on the interference with the circulation that may be entailed by distention of the stomach or intestines and weakening of the heart action and nerve force from chronic overexertion. In a case described a girl nearly 10 years old had attacks of nervous symptoms, including tonic-clonic spasms, which various courses of treatment by eminent neurologists failed to relieve. Sperling differentiated the trouble as the result of interference with the circulation from overdistention of the gastrointestinal tract. During the intervals between the attacks the skin was pale, the extremities cold, the pulse rapid and the abdomen prominent. The stomach and intestine were distended to two or three times the normal size and this interfered so much with the circulation in the trunk that a reflex nervous syndrome had developed. His assumption as to the nature of the trouble was confirmed by the complete recovery from the nervous troubles as soon as conditions in the gastrointestinal tract had been restored to normal.

Münchener medizinische Wochenschrift

April 26, LVII, No. 17, pp. 889-944

144 Principles for Treatment of Cancer. (Die im Samariterhause Heidelberg geübten Methoden der Krebsbehandlung.) V. Czerny.

145 *Fulguration in Gynecology. (Was leistet die Fulguration im Dienste der Gynäkologie?) A. Richter.

146 *Cancer of the Esophagus. (Die chirurgische Behandlung des Speiseröhrenkrebses, ihr gegenwärtiger Stand und ihre Aussichten für die Sukunft.) M. Tiegel.

147 *Early Diagnosis of Multiple Sclerosis. (Zur Frühdiagnose der multiplen Sklerose—sensibler Armtypus.) R. Finkelnburg.

148 Increased Reaction in Gravid Animals to Subcutaneous Tissue Injections. (Ueber gesteigerte Reaktionsfähigkeit gravider Tiere gegen subkutane Gewebsinjektionen.) F. Schenk.

149 Influence of Mercury on the Wassermann Reaction. (In welcher Weise wirkt das Quecksilber bei der antiluetischen Behandlung auf den Ausfall der Serореaktion.) A. Brauer.

150 Treatment of Tuberculous Hemoptysis. (Altes und Neues zur Behandlung der tuberkulösen Hämoptoe.) A. Heisler and E. Tomor.

145. **Fulguration in Treatment of Uterine Cancer.**—Richter reports the experiences with various measures in 45 cases at the gynecologic clinic at Dresden in charge of Leopold. Fulguration was systematically applied in all and the palliative effect was very good in some cases, the pains, bleeding and ichor being promptly arrested although recurring later. As fulguration can be applied without general anesthesia, it has this advantage over cauterization. Another advantage is that the tissues are so modified by the fulguration that a cancer which at first seems entirely inoperable may be found to be within the limits, as what was supposed to be carcinomatous involvement of the surrounding tissues may prove to be merely serous infiltration. The best results were attained when the fulguration was supplemented by acetone treatment; the latter alone is also very useful. This is the application of crude acetone, poured into the vagina through a glass speculum until it fills half the speculum. It is left here for 10 minutes or longer and is then swabbed out and a glycerin tampon introduced into the vagina. This procedure is repeated from two to four times a month; the acetone hardens the tissues so that bleeding and ichorous secretions are checked, and it has a most beneficial palliative action. The benefit was striking in one case of inoperable cancer treated with the acetone alone. The patient has had about 80 of these applications during twenty-one months and looks and feels well except for pain in the pelvis, although the growth is so extensive that it almost fills the vagina and compresses the rectum. Another patient comes regularly twice a month from a long distance, requiring over a four-hour railroad journey, for her acetone treatment. The number of cases of uterine cancer in which fulguration has been used is not over 80 to date, he says. He knows of no other means by which patients can so easily

be relieved for a longer or shorter time. Although the fulguration has no permanent effect, it can be repeated at need. It was applied about four times in each of the cases reported in detail.

146. **Cancer of the Esophagus.**—Tiegel thinks that the prospects for recovery are not bad after radical operations on cancer low down in the esophagus. He advocates opening the abdomen and mobilizing the growth from below as a preliminary to the operation proper. He knows of only 2 cases in which the entire operation was done at one sitting. Exploratory thoracotomy is well borne by these patients. In one case the stomach and esophagus were readily reunited after resection of the sound esophagus for 6 cm. He regards tumors high in the esophagus as still beyond the reach of the surgeon.

147. **Early Diagnosis of Multiple Sclerosis.**—Finkelnburg calls attention to certain sensory disturbances which permit the diagnosis of multiple sclerosis at an earlier stage than is otherwise possible, reporting 3 typical examples and a further group of cases in which the ultimate outcome confirmed the presumptive diagnosis based on the change in deep sensibility in the arms while the superficial is still intact, accompanied by an inability to recognize objects by the sense of touch. These sensory disturbances subside to recur again after a longer or shorter interval; not until long afterward does the clinical picture of multiple sclerosis become unmistakable. In one of the cases reported a man of 26 without trauma or preceding infectious disease noticed the progressive development of sensory disturbances in the right arm, shoulder and side of the chest, as if the arm were "asleep," with occasionally severe pain and incapacity to use the arm in drawing, which was his occupation. After being fully incapacitated for a time, complete use of the hand was gradually regained and retained for 6 years when the symptoms returned, but affecting more the legs and vision, and soon progressed to unmistakable multiple sclerosis. In another case a young man presented a transient paralysis of the left arm, aphasia, dysarthria, and disturbances in the deep sensibility of the right hand. No signs of pressure on the brain were observed at any time but the affection rapidly progressed, with spastic paresis, anarthria, bladder disturbances and death in less than six weeks. The diagnosis wavered between multiple sclerosis and multiple neoplasms, but autopsy six weeks after the onset of the severe phase revealed multiple sclerosis. In 2 other cases the sensory disturbances were restricted to the arms—merely isolated changes in the deep sensibility of the right or left hand, accompanied by paresthesias. These patients were men of 19 and 22. No other nervous disturbances were evident except a tendency to slight paresis in the limb involved and to slight nystagmus or suggestion of ataxia in the arm. In both cases the symptoms gradually subsided completely and the patients still feel well 4 and 2 years afterward, but there are signs in both of oncoming multiple sclerosis. In 8 other cases of fully developed multiple sclerosis he was able to ascertain a history of sensory disturbances like the above before the development of the actual trouble. The interval was as long as 10 years in some of the cases. Especially characteristic is the isolated disturbance in the deep sensibility and the course of development in its successive progression and complete decline.

Virchows Archiv, Berlin

April, CC, No. 1, pp. 1-192

151 The Two Hundredth Volume of the *Archiv.* (Rückblicke.) J. Orth.

152 Waxy Transformation of Muscle Fibers. (Die Zerreissungen der Muskulatur, die wachsartige Umwandlung überlebender Muskelfasern, die bei Massenigaturen entstehenden wachsartigen Unwandlungen derselben und ihre Beziehungen zu den bei Abdominaltyphus beobachteten Veränderungen.) R. Thoma.

153 Morphologic Research on Muscle Glycogen and Method of Fixation for It. P. Neukirch.

154 Peculiar Cell Forms in Dental Granulomas. (Eigentümliche Zellformen bei Zahngranulomen.) H. Dreuw and C. Rumpel.

155 Experimental Research on Formation of Bone from Displaced Periosteum Osteoblasts. (Zur Frage der Knochenbildung aus verlagerten Periostosteoblasten.) T. Tsunoda.

156 Multiple Bone Peritheliomas with Lymphosarcoma of the Lymph Glands. (Knochen-Perithelíome mit Lymphosarkom der Lymphdrüsen.) A. Bevacqua.

157 *Tumors in the Pineal Gland. (Ueber Geschwülste des Corpus pineale.) A. M. Pappenheimer.

158 Endothelioma of the Dura. H. Ribbert.

159 Case of Bilateral Cystic Suprarenals. (Fall doppelseitiger Nebennierenzysten.) B. de Vecchi.

160 Behavior of Appendix Vermiformis in Intestinal Catarrh. Especially in Children. (Verhalten des Epityphlon bei Darmkatarrhen mit bes. Berücksichtigung des kindlichen Alters.) M. Meyer.

157. **Tumors in the Pineal Gland.**—Pappenheimer gives the clinical and autopsy details of the case of a boy of 10, previously healthy, who developed symptoms of a brain tumor; the sudden onset and brief duration of the affection were particularly noticeable. The main symptoms had been headache, vomiting, stupor and severe optic neuritis. A tumor the size of a walnut was found in the region of the pineal gland, its characteristics entitling it to be called an ependymal neuroglioma. He compares the data with those of 37 other tumors of the pineal gland he has found on record, Virchow opening the list in 1863. The age of the patients ranged from 2, 4, 6 and 9 up to 50 and 59 years. Only 3 were women in the 31 cases in which the sex was mentioned.

Wiener klinische Wochenschrift, Vienna

April 28, XXIII, No. 17, pp. 613-650

161 *Pathogenesis of Epileptic Seizure. A. Fuchs.

162 Connection Between the Suprarenals and Increased Pigment Production. (Beziehungen gesteigerter Pigmentbildung zu den Nebennieren.) H. Königstein.

163 *Relative Benignity of Many Sarcomas and Carcinomas. (Zur Frage der relativen Gutartigkeit mancher Sarkome und Karzinome.) R. Koschier.

164 Bilateral Deafness after Injury of the Head. (Fall von beiderseitiger Taubheit nach einem Kopftrauma.) O. Mayer.

165 The Wassermann Reaction in Syphilis and Psoriasis. G. Gjorgjevic and P. Savnik.

166 Dislocation of Carpometacarpal Articulation. (Zur Kasuistik der Luxationen.) J. Berdach.

161. **Pathogenesis of Epileptic Seizure.**—Fuchs reports experimental research on convulsions of toxic origin (cocain) and on means to control such convulsions. It seems to be evident that sodium bromid has a specific action on the cortex, he concludes, and that its action is restricted to the cortex. It thus controls the cortical elements of the epileptic tendency, but has no influence on the subcortical element, the tonic spasm. His research has shown further that the effect of the administration of the bromids can be gaged by the difference in the behavior of the reflexes with a cortical lesion in one hemisphere. The reflexes on the side affected become abolished under the influence of the bromid, while they persist unmodified on the sound side. This reaction to the bromids was pronounced in 18 out of 21 cases of epilepsy with hemiplegic symptoms. For example, a boy with right hemiplegia had the superficial abdominal reflexes alike on both sides. Forty-five minutes after ingestion of 1.5 gm. sodium bromid the abdominal reflexes on the affected side were abolished and the Babinski positive while on the sound side there had been no change in the reflexes. This behavior of the reflexes was striking in 6 cases, as he relates in detail. In the remaining 59 cases of epilepsy little if any benefit was derived from the bromids. There was nothing in these cases to indicate a cortical lesion.

163. **Relative Benignity of Certain Cancers.**—Koschier reports in detail 8 cases of sarcoma or carcinoma in the upper air passages in which the cancer spontaneously retrogressed or subsided after an entirely inadequate operation. The growths must have been of very slight virulence and the individuals exceptionally resistant. In one case a woman of 28 had no recurrence for nearly three years after partial removal of an epithelial carcinoma in the nasopharynx. When it recurred, mercurial treatment was instituted which seemed to aggravate the growth and the patient soon succumbed to its progress. In another case a woman of 42 refused to permit the removal of an epithelial carcinoma in the nasopharynx and accustomed herself to breathing through the mouth after slight improvement had followed the exploratory incision. The cancer has persisted through 9 years without inducing cachexia, and the patient is free from further disturbances, except that vision in one eye has been lost in the last year, and there is now exophthalmos. He does not know of another case in which a histologically diagnosed carcinoma has persisted free from glandular or other metastasis and cachexia for more than 9 years. The features of these cases bear some resemblance to those of mouse cancer; they suggest the pos-

sibility that recoveries after extensive operative treatment may sometimes be due to the nature of the process rather than to the surgeon's skill.

Zeitschrift für klinische Medizin, Berlin

LXX, Nos. 3-4, pp. 185-357. Last indexed April 30, p. 1488

167 Estimation of Viscosity of the Blood. (Zur Kritik der Viskosimetrie des Blutes.) H. Determann.
168 Interpretation and Importance of Esophagocardiogram. W. Janowski.
169 *Auscultation in Testing Heart Functioning Before and After Light Exercise. (Zur Functionsprüfung des Herzens.) J. Tornai.
170 Pathology of Addison's Disease. II. (Glykogenschwund nach doppelseitiger Nebennierenexstirpation bei Hunden.) O. Porges.
171 The Iodophil Substance in the Leucocytes. (Die Iodophile Substanz der Leukozyten und ihr Verhalten zur Bestschen Färbung.) P. Neukirch.
172 Diastatic Ferment in Adrenalin Glycosuria. (Das diastatische Ferment in der Adrenalinglykosurie nebst Bemerkungen über den Glykogenabbau.) H. Schirokauer and G. G. Wlienko.
173 Importance and Extent of Diapedesis in Spontaneous Bleeding. (Bedeutung und Umfang der Diapedesis bei den spontanen Blutungen.) C. Focke.
174 Relations between Optic Activity and Reduction of Diabetic Urine. (Weitere Studien über die Beziehungen zwischen optischer Aktivität und Reduktion von Diabetesharnen.) H. C. Geelmuyden.
175 *Relations between Disturbances in Innervation and Organic Heart and Vessel Disease. (Ueber das Verhältnis zwischen Innervationsstörungen und organischen Herz- und Gefässerkrankungen.) J. Pawinski.
176 Case of Mixed Septicemia. (Form von Mischseptikämie: *Micrococcus melitensis* und *tetragenus*.) S. Ceraulo and G. Vetrano.
177 Chemical Changes in Myocardium with Heart Disease. (Ueber chemische Veränderungen des Herzmuskels bei Herzkrankheiten.) C. v. Rzentkowski.
178 Angina Pectoris in the Light of the Past. (William Heberden —Angina pectoris.) J. Pawinski.
179 Influence of Respiration on Blood-Pressure and Size of Heart. (Einfluss der Respiration auf Blutdruck und Herzgrösse.) G. Holzknecht and L. Hofbauer.

169. **Functional Tests of the Heart.**—Tornai has elaborated into a system the method of estimating the functional capacity of the heart by auscultation of the sounds audible as an artery is compressed by a Riva-Rocci cuff and the compression then gradually released. The stethoscope applied to the artery below, where it divides, will perceive a maximal systolic sound which becomes rhythmical with each systole as the pressure becomes lower and lower after removal of the compression until the sound finally disappears. There is a regular variation in the intensity and characteristics of the sound heard under these circumstances, varying from the maximum to the minimum of the pressure artificially heightened by the compression. This auscultatory pressure measurement is proving valuable as a means of estimating the functional capacity of the heart, and he tabulates the findings in a number of cases before and during treatment. In one case of Addison's disease conditions in the blood pressure were restored approximately to normal during a systematic course of epinephrin treatment, but in a second, similar case, the abnormal auscultation findings persisted and no benefit was derived from the treatment, the patient soon dying. Tornai urges others to adopt this simple and reliable method of estimating the dependability of the heart and the improvement and strengthening of the heart under appropriate therapeutic and other measures. He adds that it is the most difficult, but at the same time the most satisfactory, task of the physician to estimate in each individual case the actual functional capacity of the heart, conserve its resources and train it to increased functioning. All this is facilitated by this method of auscultation.

175. **Relations Between Disturbances in Innervation and Organic Heart Disease.**—Pawinski comments on the remarkable influence of heart disease on the mind and moods, which feel its influence to a greater extent than is the case even in tuberculosis. Patients with heart disease as a rule do not feel badly or depressed until the fact that they have organic heart disease is revealed to them. The depression that follows is peculiarly aggravated as more serious symptoms follow. With a valvular defect associated with a tendency to neurasthenia or hysteria, or both, there is generally either excitement with unusual cheerfulness or a hypochondriac depression. The first type is observed mostly with a valvular defect of rheumatic origin in the young, of a lively, excitable temperament, fond of sports and excesses. It is possible that the abnormally powerful contractions of the heart, sending exceptionally large waves of blood to the brain and then sucking it all away again may maintain the condition of extreme excitability. This type is also observed with pure mitral stenosis or insufficiency especially in women. The changeability of the objective symptoms is a special feature of this group, the diagnosis wavering between valvular defect, chronic disease of the myocardium and a mere cardiac neurosis. The morose type is most common in men with mitral insufficiency. Recurring dyspnea accompanied by depression, especially in the obese, psychic asthma occurring often at night, especially with a tendency to obesity, during the menopause, and also the climacteric cardiovascular weakness and the dyspnea simulating angina pectoris which is observed at times in men, especially after exercise—all these are due to disturbances in the innervation, but they may blend into or accompany an organic affection. Sometimes the functional disturbances mask the organic trouble or pave the way for their development. Pawinski is convinced that disturbances in the sexual sphere are at the root of most cases of heart neuroses. The knowledge of the relations between the innervation and the circulation is of extreme importance for the general practitioner, he adds, as on this depend not only the prognosis but the whole plan of treatment, and it protects against too exclusive reliance on heart stimulants, while it points the way to effectual psychotherapy.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

A STUDY OF THE ANATOMY OF WATSONIUS (N. G.) WATSONI OF MAN AND OF NINETEEN ALLIED SPECIES OF MAMMALIAN TREMATODE WORMS OF THE SUPERFAMILY PARAMPHISTOMOIDEA. By C. W. Stiles and Joseph Goldberger. Treasury Department, Public Health and Marine-Hospital Service of the United States. Hygienic Laboratory, Bulletin No. 60. Paper. Pp. 264, with 202 illustration. Washington: [Superintendent of Documents] Government Printing Office, 1910.

PULMONARY TUBERCULOSIS AND ITS COMPLICATIONS. With Special Reference to Diagnosis and Treatment for General Practitioners and Students. By Sherman G. Bonney, M.D., Professor of Medicine, Denver and Gross College of Medicine, Medical Department of the University of Denver. Second Edition. Cloth. Price, $7 net. Pp. 955, with 243 illustrations. Philadelphia: W. B. Saunders Co., 1910.

A CONTRIBUTION TO THE COMPARATIVE ANATOMY OF THE PROSTATE GLAND. Being a Thesis for the Doctorate of Philosophy in Biology at the Illinois Wesleyan University, Bloomington, Ill., June 17, 1909. By C. W. Rohrer, M.D., Associate Professor of Pathology and Assistant in Genito-Urinary Diseases, College of Physicians and Surgeons, Baltimore. Cloth. Pp. 124.

PHYSIOLOGY AND PATHOLOGY OF THE SEMICIRCULAR CANALS. Being an Excerpt of the Clinical Studies of Dr. Robert Barany with Notes and Addenda Gathered from the Vienna Clinics. By Adolph E. Isenhoff, D. And a Foreword by Royal S. Copeland, M.D. Cloth. Price, $1 net. Pp. 64, with illustrations. New York: Paul B. Hoeber, 69 E. 59th St., 1910.

DISEASES OF THE EYE. A Hand-book of Ophthalmic Practice for Students and Practitioners. By G. E. deSchweinitz, M.D., Professor of Ophthalmology in the University of Pennsylvania and Ophthalmic Surgeon to the University Hospital. Sixth Edition. Cloth. Price, $5 net. Pp. 945, with 351 illustrations. Philadelphia: W. B. Saunders Co., 1910.

A SYSTEM OF SYPHILIS. In Six Volumes. Edited by D'Arcy Power, M.B., and J. Keogh Murphy, M.C. With an Introduction by Sir Jonathan Hutchinson, F.R.S. Volume IV, Syphilis of the Nervous System. By F. W. Mott, M.D. Cloth. Price, $13.50. Pp. 502, with 57 illustrations. New York: Oxford University Press, 1910.

SURGICAL AFTER-TREATMENT. A Manual of the Conduct of Surgical Convalescence. By L. R. G. Crandon, M.D., Assistant in Surgery at Harvard Medical School. Cloth. Price, $6 net. Pp. 803, with 265 illustrations. Philadelphia: W. B. Saunders Co., 1910.

TWENTY-FOURTH ANNUAL REPORT OF THE OHIO DAIRY AND FOOD COMMISSIONER TO THE GOVERNOR OF THE STATE OF OHIO. For the Fiscal Year Ending Nov. 15, 1909. Renick W. Dunlap, Commissioner [Columbus, Ohio]. Paper. Pp. 93.

LIFE AND HEALTH. By James F. Rogers, M.D., Assistant Instructor Physical Diagnosis, Yale University. Cloth. Pp. 202. Price, $1 net. Philadelphia: J. B. Lippincott Co., 1910.

THE FAMILY HEALTH. By Myer Solis-Cohen, M.D., Fellow of the College of Physicians of Philadelphia. Cloth. Price, $1. Pp. 267. Philadelphia: The Penn Publishing Co., 1910.

PROCEEDINGS OF THE NEW HAMPSHIRE PHARMACEUTICAL ASSOCIATION AT THE THIRTY-SIXTH ANNUAL MEETING. Held at the Weirs, N. H., June 29 and 30, 1909. Paper. Pp. 125, with illustrations.

FIFTY-SIXTH ANNUAL REPORT OF THE NEW YORK INFIRMARY FOR WOMEN AND CHILDREN. Dispensary, 321 East 15th St., New York, 1909. Paper. Pp. 51.

THE CARE OF THE CHILD. By Mrs. Burton Chance. Cloth. Price, $1. Pp. 242, with illustrations. Philadelphia: The Penn Publishing Co., 1909.